THIS WEEK'S National Petroleum NEWS

Coming Meetings

1932

Alabama Oil Men's Association, Jefferson Davis Hotel, Montgomery, Ala., Sept. 7.

National Petroleum Association, annual meeting, Hotel Traymore, Atlantic City, N. J., Sept. 14, 15, 16.

Ohio Petroleum Marketers Association, Deshler-Wallick Hotel, Columbus, Sept. 21, 22.

North American Gasoline Tax Conference, Philadelphia, Sept. 21, 22, 23.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Conoco Club, Ponca City, Okla., Sept. 30, Oct. 1.

National Safety Council, Washington, D. C., Oct. 3 to 7.

Society of Automotive Engineers, Transportation Meeting, Toronto, Oct. 4, 5, 6.

American Gas Association, Atlantic City, N. J., Oct. 10 to 14.

Kentucky Petroleum Marketers Association, Louisville, Oct. 11, 12.

Four States Convention, Hotel President, Kansas City, Oct. 25, 26, 27.

California Natural Gasoline Association, Los Angeles, Nov. 10.

American Petroleum Institute, annual meeting, Houston, Tex., Nov. 15, 16, 17.

Rocky Mountain Oil and Gas Association, Rainbow Hotel, Great Falls, Mont., December (dates not set).

1933

Ohio Petroleum Marketers Association, Deshler-Wallick Hotel, Columbus, O., Feb. 15, 16, 17.

National Petroleum Association, Cleveland Hotel, Cleveland, O., April 20, 21.

National Petroleum News

Vol. 24 No. 35

Published by
The National Petroleum Publishing Co.
1213 W. Third St., Cleveland, O.
Tel., CHerry 7672

Branch Offices:

TULSA,
904 World Bldg., Tel. 3-7132.

NEW YORK,
342 Madison Ave., Tel. Vanderbilt 3-3950 and 3-3951.

HOUSTON,
303 West Drew Ave., Tel. Lehigh 5852.

CHICAGO,
35 E. Wacker Drive, Tel. State 4141.

Subscription rate $3.50 per year, U. S. and Mexico; Canada $6 (including duty); $5 Foreign countries. Current copies 10 cents; for back issues more than two months old 25 cents per copy.

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"Winter Conditioning" Articles

PRACTICALLY every service station has some merchandise and services to offer motorists for conditioning automobiles for winter driving, and the time to plan to increase last quarter profits through selling in this market is now.

NATIONAL PETROLEUM NEWS publishes in this issue the first article on "Winter Conditioning," to suggest merchandise and services applicable for this market, and to offer some merchandising ideas on the subject. Turn to Page 41.

¶ Other articles on "Winter Conditioning" will be published in a special issue in October. Winter grade gasoline advertising, winter lubrication needs, how merchandise can be displayed, servicing the cooling system, and conditioning the automobile body, are some of the titles.

OIL COMPANY HEADQUARTERS

Union Oil Co. of California

UNION Oil Co. of California with its 20 subsidiaries maintains general offices in this 12-story building at 617 West Seventh street, Los Angeles. The company occupies 100,000 square feet of floor space in the structure from which supervision is given its thousand miles of pipeline, tankships and barges, producing operations in both Americas as well as its refineries, natural gasoline plants and marketing properties.

NATIONAL PETROLEUM NEWS

Published at
1213 W. Third St.
Cleveland

Branch Offices
Tulsa, New York, Houston, Chicago

Vol. 24 **CLEVELAND, AUGUST 31, 1932** **No. 35**

Secret Retail Discounts in Ohio to Bring Charges of Marketing Code Violation

By Roger B. Stafford
N. P. N. Staff Writer

AKRON, Aug. 26

COMPLAINT that dealers in widely known branded gasolines are selling gasoline at prices other than their posted prices in violation of Rule 17 of the code of marketing practices, will be filed with the Ohio code committee by B. F. Connolly, field representative of the Tri-County Petroleum Club. This club is made up of marketers in the territory around Akron, Canton, Massillon, Wadsworth, Medina and Kent—part of the industrial belt of Ohio.

In this area marketing conditions are a great deal like those in the eastern states, where a dealer situation is dominant. There are perhaps more dealer stations in proportion to company owned and operated, or company controlled stations than in the rest of Ohio and in most of the territory westward to the Rocky Mountains.

Mr. Connolly, who became field man for the Tri-County club, Aug. 1 after two months of like service for one of the refining companies operating in the territory, has made a survey of marketing conditions in Akron, Canton and Massillon.

He found that it was easy to get discounts of 1 cent a gallon on both small and large purchases of gasoline at most of the dealer stations he visited. He reported his findings to the Tri-County club at its Aug. 25 meeting at Congress Lake after he had mailed findings of the survey to date to all members of the club and sales and general executives of the companies whose dealers were violating the code.

The club instructed him to draft and file the complaint with the state code committee which will meet in Columbus during the Ohio Petroleum Marketers Association convention Sept. 21 and 22. Meanwhile the survey will be continued and all findings laid before the executives of the supplying companies, most of whom own and operate stations in the territory, and also before the code committee.

NO OPEN action has been taken by the supplying companies on the discount proposition so far as the club has been able to learn. Field men of the major companies, many of whose dealers are giving discounts, are inclined to wink at the whole practice. Their instructions are to get gallonage. The means is seldom questioned if the end is gained.

Gasolines made by the following companies were bought by Mr. Connolly or two men he employed, at discounts of 0.5 to 2 cents a gallon:

The Texas Co., Gulf Refining Co., Sun Oil Co., Standard Oil Co., Vacuum Oil Co., Cities Service Oil Co.. Sterling Oil Co., Pennzoil Co., Sinclair Refining Co., Pure Oil Co., Shell Petroleum Corp., Canfield Oil Co., Freedom Oil Works, Johnson Oil Refining Co., Allegheny-Arrow Oil Co., Hickok Oil Corp., Atlantic Refining Co., Fleetwing Oil Corp., National Refining Co., Ohio Oil Co., Valvoline Oil Co. and Benzoco, Inc.

Mr. Connolly or his two men in a truck called at 64 dealer stations in the Akron district and bought regular and Ethyl gasolines at 1 or 2 cents discount at 42 of those stations.

In Canton 97 dealer stations were solicited for gasoline, and discounts were granted at 43 of them—a better average than in Akron.

In Massillon six stations were solicited and discounts of 0.5 and 1 cent were given by four although the price there is 3

cents under the state structure. However, one of the station operators who did not give a discount, said he would soon have a bulk station nearby at which he would give 3 cents discount to trucks if the price structure moves up.

Some talking was required at some of the stations, Mr. Connolly reported, in order to get the discounts and one dealer commented: "The company would raise hell if they found this out." At another station where a discount of 1 cent was granted Mr. Connolly was told to say he paid the posted price for the gasoline if any one asked him about it.

In Canton was found a 100 per cent station of the company which had been the backer of Mr. Connolly's activities until the club hired him. Not only was the Ethyl gasoline of that company sold at a discount but the two investigating truckers were offered the motor oil of another company at $2.75 for a five-gallon can. The dealer explained that he was 100 per cent but was selling the oil "for a friend."

Another dealer said he hadn't been giving a discount but was starting it and asked the truckers to tell all their friends about it. A Standard Oil dealer said he knew Standard had a spotter out but they would never catch him. He gave a discount on the regular, or intermediate, grade of gasoline.

When a discount was sought in one Canton station the men were told to drive to a third grade pump where the posted price was 2 cents less than at the pump of the regular grade. "It's the same gasoline," the attendant explained.

At a major company dealer station, were two unmarked pumps. The price posted on the pumps was 16.5 cents. The dealer said the gasoline was the 18.5 cent grade of another large company which he had bought cheap.

At another station where a 1-cent discount was given on a well known brand, the truckers were told on their next trip they would be given 2 cents off. The dealer remarked he did a lot of discounting to trucks.

In Akron a quantity of a well known brand of Ethyl gasoline was bought at 2 cents off. The attendant made out a ticket and remarked that when he turned that in to his supplier—a major company—that the company would assume 0.5 cent of the discount.

One dealer in Akron give the truckers an advertising blotter and said it would be recognized as a courtesy card for discounts.

A discount was granted by one split-account dealer on a widely advertised gasoline but he said he could not give a discount on the gasoline of another widely advertised brand and a local brand.

Sore spots in the Akron market are the stations of Goodyear Tire & Rubber Co. and Goodrich Silvertown, Inc. Discounts to employes of the Goodyear and Goodrich factories draw thousands of cars to those stations. Goodrich gives 2 cents a gallon off to employes and employe discounts at the Goodyear stations, which are off the main thoroughfares, are now 4 cents although recently they were as high as 6 cents a gallon, Akron oil men say.

Oil men say the tire company stations sell around 3,000,000 gallons of gasoline a year or 10 per cent of the Akron requirements. The remaining 90 per cent, or 27,000,000 gallons is sold through approximately 450 drive-in service stations and numerous garages.

At one of the rubber companies it was said it was customary for retail concerns to give their employes discounts on merchandise they bought at company stores. Employes of this company in Akron own about 8000 cars. It was said the gallonage of the company's stations could be multiplied many times if it could induce all employes to buy their gasoline there.

At one tire dealer's super-service station no discount could be obtained by Mr. Connolly's men. They were told even employes paid the full price.

Firestone does not have a super-service station in Akron and does not sell gasoline direct to its employes. However, there are many stations near the Firestone factory at which discounts are given to all Firestone employes. Dealers explain they do this to keep Firestone out of the gasoline business there. An officer of the Tri-County club said Firestone had denied intention of selling gasoline direct to its employes.

A discount of 1 cent was given Mr. Connolly's men by a tire dealer generally credited with having Firestone backing.

Goodrich denied that discounts were given contract truckers who haul its tires from Akron to many parts of the country east of the Rockies. It was said that thousands of gallons of truck business a month was lost to the Goodrich Silvertown stations because they would not give discounts to anyone but employes.

Considerable resentment is being expressed by Akron oil jobbers and some representatives of the larger oil companies because of the employe discount system.

One of the troubles in the en-

(*Continued on page* 15)

THE accompanying article outlines a few of the gasoline marketing troubles in Akron, Canton and nearby Ohio cities which represent a typical American industrial community in which competition today is keener than at any previous time in the history of the petroleum industry.

In reading this article of discounts and demoralizing conditions the reader may merely substitute the name of his town or community for Akron or Canton, and have a picture of his own community if his marketing territory is filled with a horde of dealer outlets which grant discounts, give away premiums or do other things to throw away profits and ruin the chances of profits for those marketers who accept these methods of bankrupt merchandising.

Perhaps conditions are a little better in Akron and Canton than in other communities where dealer margins are wider and thereby allow the idealess dealer a chance to "raise a little more Cain" than the 2.5 to 3.5 cents given in Ohio permit.

THE EDITORS' VIEWPOINT

Big Companies Wreck Marketing

By Warren C. Platt, Editor

THE appalling price cutting by dealers handling branded products of big oil companies is disclosed in the story printed in this issue on the investigation made around Akron, O., by representatives of the local oil marketing association.

That investigation proves conclusively that the wide dealer margins are wrecking the marketing division of the oil industry.

That investigation also proves that the big companies whose products are thus sold at cut prices, are either deaf and blind to this practice or that they cannot or do not want to control it.

That investigation shows that the dealers of companies whose head officials have raised their hands the highest to the heavens in swearing everlasting fealty to the "code of ethics," are wrecking the profits of those same companies.

What is the oil industry going to do about it? Go on losing a lot of money in its marketing division? Go on protesting loudly its belief in the superficial effect of the code of ethics? Or will the industry at last get down to business and clean up all these sores that are festering more rapidly every day in its markets?

We never have thought much of the so-called code of ethics from the day it was first proposed. It has done some good but it has lost the industry a great deal of time as well as money, in that it diverted attention from fundamental errors in marketing policy, and centered the industry's thought and activity on a lot of inconsequential stuff. The code has been the means of lulling to sleep the thinking of the highest executives of the big oil companies. Because they were contributing to the code and lending their lawyers and sales executives to a lot of code committees, and because they signed the oath of allegiance, these executives seemed to feel that they had thus settled forever their marketing troubles. Whereas they only put a coating over the surface which made it all the harder for them to see the truth beneath.

The code today, practically all over the country, is a joke, so far as what it was aimed to do which was to make money for the oil industry. Some bad practices have been cleaned up, true, *but the industry is losing more money today in the marketing end than ever before in its history*, we believe, at least in the last twenty or more years.

It has always been our opinion and we have so said on numerous occasions, that the first step to have taken in establishing a code of marketing practices was to set forth a sound theory of price structure from the refinery out, not an agreement on prices, but a structure plan of costs and prices. That has not been done and until it is done all the codes that the Federal Trade Commission ever dreamed about, whether legal or illegal, cannot bring profit to the marketing of petroleum products.

Given a sound price structure, a code of marketing practices would necessarily be short because the sound structure itself would automatically eliminate most of the evils that have been complained of.

It is useless to decry the price cutter as a villain. He is just human and in many many cases a mighty sound thinking business man, a better business man some times than those "ethical" persons with whom he competes. The price cutter is showing the oil industry in many cases a more efficient and direct way to market its products and also he is showing the industry that the public does not need a service station at every consumer's back door, but that the public will travel out of its way to get a satisfactory gasoline at a lower price.

WE ADMIT there are shysters cutting prices, even down-right crooks, tax evaders, etc. but there are also some who have put their businesses on a sensible basis. As one of them put it to the writer not long ago, "I am not selling wind shield wiping service—I am selling gasoline. The customer can wipe his own windshield if he wants it wiped."

The oil industry has gone in too much for so-called service, all of which including "handy" service stations on expensive corners etc. etc., and a feeling that more dealers are needed in the business despite declining gallonage per station, has caused the industry to maintain a spread between laid down price of gasoline and sales price that is making it possible for the price cutter to attract much extra profitable gallonage by simply having a lower price.

This situation is not going to be righted until the highest executives of the companies forget about leases and well drilling and refinery operation for a day or two, and themselves get into this marketing situation.

Rectifying a 20-Year-Old Mistake

THE deal pending for the Standard of Indiana to take over the refinery and pipelines of the Standard of Kansas is reminiscent of the times and lack of correct vision of the days of the famous Standard of New Jersey dissolution decree 20 years ago.

That period probably goes back farther than most men's memories in the oil industry today. The writer happened to be intimately acquainted with the Independent oil men who were the chief prosecutors of that suit. The action with all the preliminary investigations which it climaxed, occurred over a period of a good many years.

When the suit was finally won by the government it caught most every one unawares, so to speak. All the time had been spent on prosecuting the action and none on figuring out the penalty. There was much scratching of heads and the more a possible penalty was studied, the bigger every one found the problem. At last the idea of distributing the stock in the parent and all subsidiary companies to all stockholders was worked out and put through. Then the Standard executives found themselves up against an equally hard problem in finding executives to man the separated companies. As one man at 26 Broadway put it, "We even had to send out some office boys to head these companies."

I do not believe that any one at that time realized that personalities would develop among the heads of the ex-subsidiaries and that there would actually be much and even better competition between them, as their has been. Nor did they appreciate the extent to which each company head would look out for his own and his company's interest regardless of the fate of other ex-subsidiaries.

AFTER a few years had passed and particularly after some new men had come up from the ranks to head some of the ex-subsidiaries, the former "clubby spirit" was pretty much gone. Some executives would only speak to each other when pressing business required.

It was quite natural, therefore, that some of the units that had been cast off and were not strongly situated, got no attention and no sympathy and began to drift into serious situations.

The strong Vacuum Oil Co. which had always made the high grade lubricating oils for all the Standards, found its product thrown out in the street by first one ex-Standard company after another because each had put in a lubricating plant of his own and was making its own oils. The Vacuum woke up one day to a realization it had no customers but a big output of oil. Then is when it started building a large organization of dealer outlets, and from that it worked back to being completely integrated when it joined up with the Standard of New York.

The old Galena Signal Oil Co. had a monopoly on all the railroad lubricating business for several decades because of the tonnage that the parent Standard company controlled. When the parent had to turn its children out into the street the children controlled the tonnage and they also made lubricating oils and they soon went after the railroad business in their territories and shortly the Galena Signal Oil Co. had practically none.

The old Continental Oil Co. found itself marooned in the Rocky mountain district without crude and sufficient other facilities to make a strong company, so it was joined with some other lone orphans and the Marland Oil Co., into the Continental of today.

The Standard of Ohio a year ago took over the Solar Refining Co. which had a refinery at Lima, O., but nothing else; no crude and no customers. There have been other but minor clean-ups to keep stockholders from losing money by reason of the inability of the government and the old Standard oil leaders at the time of the dissolution to see clearly just what was going to happen to some of the orphans.

NOW comes the Standard of Indiana and in pursuance of the sheer logic of events, proposes to take over the Standard of Kansas which has been sitting by itself in Kansas without a customer except as the Standard of Indiana cared to buy. There was no reason why the Standard of Indiana should carry the Kansas company on its charity list, so at times, one hears, the Indiana company had its own ideas as to price and did not see how it could go higher in justice to the Indiana company's stockholders, who are not the stockholders of the Kansas company.

Presumably the integration will continue in the next few years as there are still some of the Standard companies that could be in a stronger position for their stockholders if some things were done.

Neither the government nor the Independent oil men, who fought for the dissolution, have offered objection to the consolidations because they recognized they were in justice to the stockholders, a very large number of whom had come into the companies long since the day of the dissolution decree. In fact the writer knows that some of the vigorous fighters for the dissolution decree 20 years ago, gave testimony gladly in support of the Vacuum-Standard of New York consolidation.

The industry today wants these companies to be successful for otherwise the industry as a whole could not be profitable.

Secret Discounts

(*Continued from page* 12)

tire tire station set-up is the national account arrangement the rubber companies have with major oil companies for gasoline supplies. Under the national account arrangement the rubber stations get gasoline at 4 to 5½ cents off the service station posted price whether the gasoline is delivered by tank wagon or tank car.

The opinion has been held for several years—and is still held —by the tire companies that they should receive a wider margin on gasoline on the ground that gasoline cannot be pumped into an automobile at a well equipped and manned service station for less than 5 cents a gallon. To give the tire company a profit on the motor fuel, a wider margin is sought. Tire companies have probably made as thorough a study of service station operating costs as any other gasoline selling group, and undoubtedly more thorough than most of the oil marketing companies. They feel they are at a serious disadvantage in commercial discount territory although they give discounts to thousands of employes at home.

The ideas of the tire companies in this respect are diverging further from the ideas of leading oil marketers who foresee further narrowing of retail margins in the future. Belief that margins will continue to narrow was expressed at the Aug. 25 meeting of the Tri-County club by R. A. Browne, sales director of the Pennzoil Co., Oil City, Pa.; Ed Rieser, president, Allegheny-Arrow Oil Co., Canton; and D. C. McIntosh, Allegheny Service Co., Canton, president of the club.

The general margin in Ohio is 2.5 cents on tank wagon deliveries for the principal grades of gasoline but lease and agency accounts get 0.5 or 1 cent rent additional. Willingness of dealers to split this narrow margin with their trade has disturbed markets not only in this Akron district but in every part of the country where dealer outlets dominate a field.

Fifty and possibly 75 per cent of market troubles come from dealers who are handling major company products, William J. Loufman, sales manager of Fleetwing Oil Corp., told the Tri-County club.

Marketing in Middle West Upset By Retail Discount Policy

By Teletype

CHICAGO, Aug. 30

RETAIL gasoline discounts have upset middle western marketing as nothing else in recent years. Both large and small marketers are virtually unanimous in condemning the plan which was put into effect Aug. 20, by the Standard Oil Co. of Indiana and followed in one form or another by most of the major companies and many jobbers since that date.

A few companies have met the discount competition of the larger companies with straight price cuts. Aug. 27 Golden Rule Refining Co. cut its gasoline prices 1 cent on third grade and 2 cents on other grades in its western Kansas territory. At noon Aug. 30, Deep Rock Oil Corp. cut prices of all its grades 1 cent at service stations only in the two Dakotas, Minnesota, Wisconsin, Illinois, Iowa, Indiana, Missouri and Michigan. The cut in Michigan followed a 1-cent reduction Aug. 27 by Standard in the service station price only in that state.

Major companies have lined up in two general groups of discount practices. One group has followed in general the policy of Standard Oil in making the minimum gallonage purchase requirement 100 gallons in any one calendar month before granting a discount of 2 cents a gallon on Ethyl and regular grades, and 1 cent on the third grade. In this group are Barnsdall Refining Co., Continental Oil Co., The Texas Co., Skelly Oil Co., Johnson Oil & Refining Co., White Star Refining Co., and the White Eagle Oil Corp.

The other group has made 100 gallons its minimum requirement, but allows the discount at time of purchase. Theoretically if a buyer purchases less than 100 gallons a month he is to be billed for an extra 2 cents a gallon on the quantity he has purchased.

Actually few of the larger marketers in the territory are so optimistic as to believe they will be able to collect the 2 cents additional. Some are frank to say an attempt to collect the 2 cents would damage good will. However, if a buyer persistently falls below the minimum of 100 gallons a month his contract may be cancelled by the seller. It is doubtful whether this would be done because the buyer could go to a competing company, sign a contract and get a discount until such time as the new seller would tire of low gallonages.

In the group allowing the discount at time of purchase are Sinclair Refining Co., Cities Service Co., Shell Petroleum Corp., Phillips Petroleum Co., Pure Oil Co., and Mid-Continent Petroleum Corp.

There is a third class of contracts, but this class is confined to Michigan where Sun Oil Co., and Hickok Oil Corp., have set the minimum requirements at 25 gallons a month—a quantity that will take in almost all motor car users. This discount is granted on completion of the purchase of 25 gallons on presentation to the companies offices or designated outlets of the sales tickets for the 25 gallons.

Some small competitors are reported to be giving two cents off posted prices on purchase of five or ten gallons at some half dozen places in Michigan, although no general adoption of this practice could be uncovered by noon Aug. 30. These cases are isolated, but in Chicago they are taken as indicators of the way the wind is blowing. In other words, a general downward revision of gasoline price would not be surprising.

No one will hazard a guess on what the outcome of the discount business might be. The market in Chicago has been

slowed down but tank car prices of gasoline have receded only slightly since Standard announced its policy of Aug. 20. In view of the present level of the market sellers are expected to sit tight to see what may develop as a result of the general adoption of the retail discount system and the scattered reductions in retail prices.

Estimates on the volume of gasoline that will be sold at discounts vary greatly. They run as high as 90 per cent in the Detroit area of Michigan. Those who will venture estimates, place the minimum at 50 per cent for the whole of Indiana territory. At some major company offices no guess or estimate could be obtained.

The discounts are applicable to both individual and commercial buyers if they attain the quantity minimum. There are reports to officers of state marketers associations that clubs of individuals are being formed so that a group of several persons may meet the requirements of those companies which have put their minimum at 100 gallons.

Most large companies are splitting the discounts half and half with their controlled stations, but not with their uncontrolled stations. One large company in Michigan is splitting discounts with any dealer under a sales contract whether it is a 100 per cent outlet or not.

REFINERS, with one exception, among some 20 canvassed, have not decided what they will do in regard to marginal contracts with their jobbers. Most of them are sitting tight, hoping that the next hour or day may bring a reversal or some modification of the discount policy. It can be stated on reliable authority that Standard is not sure how long its present policy will be maintained. The company poked a hornet's nest and the hornets are swarming around in a manner that is alarming even to those who use the goad. One thing is certain, some people are going to get stung and from opinions commonly expressed few marketers of gasoline in Indiana territory will escape.

The trouble which led Standard to adopt the retail discount started well near the bottom of the marketing set-up, among the uncontrolled dealers and low price operators who have made the most of the economic depression to build up gasoline gallonage at the expense of the old line companies.

These discounts have been given both openly and secretly. Controlled dealers have been hit and as they are a trifle farther removed from control than the company owned and operated stations, they began to give discounts to favored buyers secretly.

MANY dealers have been giving premiums whose wholesale market value represented a cut of around two cents a gallon. These premiums have attracted a certain type of buyer, but the aggregate of this class of purchasing amounted to considerable. These dealers have been giving discounts of more than two cents a gallon to truck and large commercial buyers.

In some parts of the territory the inroads of the price cutters have been rather deep on the gallonage of Standard and other companies. Something was necessary to hold the gallonage to the company stations as a measure of preservation. The Standard after days of discussion decided on the discount policy. But its adoption came as a surprise and severe shock to its leading competitors.

There are rumors of sinister motives behind the new policy but at the Standard's home office it was denied there was anything other than an attempt at self preservation motivating its action. It was stated the company did not want to see any price structure torn down.

Following institution of the discount policy trackage stations and low priced stations in many places lowered their prices so their cash prices were under the discounted prices of the competing marketers.

Sunny Service Oil Co., at Detroit cut the price of its first line gasoline "Imported Zip," to eight gallons for 93 cents, or approximately 11.6 cents a gallon, including four cents state and federal taxes. It had been selling this at seven gallons for 95 cents. In Minneapolis and St. Paul, trackage stations dropped their price of third grade gasoline to 0.1 cent under Stanolind, Standard's third grade gasoline, and the price of their higher grade gasoline to 0.5 cent under Red Crown.

In some parts of Indiana's territory jobbers are sitting tight to see what way things will turn the next few days before taking action on meeting the new type of competition. This was the case generally in the Dakotas and Minnesota, according to information reaching E. E. Hadlick of the Northwest Petroleum Association.

John A. Motter of the Kansas Oil Men's Association, said there were scattered cases of price cutting besides the more extensive cutting by the Golden Rule Refining Co. In cases where jobbers had adopted the discount plan most were not splitting the discount with their dealer outlets.

Iowa jobbers were generally following the lead of the major companies, said M. L. Long of the Iowa association, but there was paring of minimum requirements in some spots. There had been cases of secret rebating, Mr. Long said, but jobbers believed the amount was not sufficient to warrant a general discount system. He reported jobbers were considerably stirred up by the development.

CONFUSION which the new Q. D. A. has caused in Missouri is cited in a bulletin issued Aug. 26 by George S. Allee, president of the Missouri Oil Men's Association. The Q. D. A. is a lame and impotent method which has only trifled with the evil, not cured it, Mr. Allee says. Following is his bulletin to association members:

"There seems to be diversified opinions among the executives of the major companies regarding service station discounts and the method of handling them. . . .

"Much confusion has resulted among the outlets of the various companies in selling gasoline to anticipated contract signers, allowing them the rebate. He is a poor buyer indeed who has not been buying service station gasoline at 2c less than the posted price in Kansas City, the past two days.

"The Q. D. A. was originally introduced because the price structure was out of line, the spread was abnormal and chis-

elers began working in on some of the resale and preferred commercial accounts. It was but a lame and impotent method that only trifled with the evil, did not cure it. Since its inception, the spread has narrowed many times to a point where the abandonment of the Q. D. A. would have been a sound, economical expediency, but unfortunately we still have it and now in its most vicious form—a policy that will conceive and bear nothing but iniquity and corruption in the service station structure.

"If some of the major oil company division managers kept their salesmen as busy hunting business as they do hunting sales ticket evidence that some competitor is selling a product at a lower price than their schedule their efforts would produce more profits and less hell. If some of the leaders of the industry would look with as much favor on constructive as they do on destructive marketing methods, there would not be so many abortions in their marketing policies.

"The time is apropos for the leaders of the industry to get the marketing department out of the rough, back on the fairway where there is at least a chance of making par. . . ."

Issues I. O. U's. for Retail Q. D. A.

TO AVOID complicated bookkeeping in connection with the new service station Q. D. A. in Standard of Indiana territory Faber Oil Co., Peoria, Ill., issues receipts to individual customers at the time of gasoline sales. A copy of each is sent by the station salesman to the company officers.

If the customer can present enough slips at the company offices to show the purchase of 92 gallons in any calendar month he will be paid a cash discount. Following is the form used by the Faber company:

$I. O. U.$ **$I. O. U.$**

Date.....

On this day Mr. .....of

.....purchased ..... gallons of

Fabers 3-50
Fabers Ethyl
Fabers Motor Fuel } at Service Station No.....

The car was a..... and the License No.

..... Attendant.....

The holder of this script may present this slip, and others accumulative, to show purchase of ninety-two (92) gallons of Fabers gasoline during above named calendar month, to any Faber Oil Service Station or Faber Oil Company's General Office, 100 Edmund Street, at any time during the next calendar month than named above, and receive a cash discount in a certain amount.

This slip will be honored for $..... All other slips presented will be honored, based on the following arrangement:

2c discount on Fabers Ethyl
2c discount on Fabers 3-50
1c discount on Fabers Motor Fuel

SIGNED
FABER OIL COMPANY
(Cashier) N. L. MURRAY

$I. O. U.$ **$I. O. U.$**

ILLINOIS jobbers were trying to hold to the policies of the major companies, using the two general plans and holding to the 100 gallon minimum. G. A. Primm, secretary of the Illinois Petroleum Marketers Association, has just completed an analysis of the gallonage figures of four leading marketers of the state in the first half of 1932, compared with gallonage the first half of 1932.

The state's gallonage was down 2.67 per cent this year. Standard's gallonage was down 3.11 per cent; Sinclair's up 3.27, per cent; The Texas Co.'s down 5.57 per cent, and Shell's down 11.17 per cent.

In the first half of last year Standard had 26.24 per cent of the state's total gallonage; Sinclair 10.64 per cent; Texas 9.42 per cent, and Shell 7.96 per cent. This year Standard held 26.36 per cent; Sinclair 11.28 per cent; Texas 9.14, and Shell 7.35 per cent.

Mr. Primm cited the figures as proof that the case did not call for so severe a remedy.

The discount plan in general is to sign up a buyer on a contract. Contracts of those companies that are following the refund plan are identical in substance to that of Standard's printed in NATIONAL PETROLEUM NEWS for Aug. 24, and cancellable by the seller on 10 days written notice. In contracts of the other form it is provided the discount may be allowed at time of purchase at the option of the sellers.

Identification cards are issued. On some of these like that of Sinclair, the cards bear the license number of the vehicle or vehicles which may be granted the discount so there can be no passing around of the courtesy cards among friends to pile up gallonage. In some cases the signature of the buyer is required on the card and the buyer must sign a sales slip before a discount is allowed. The station salesman is supposed to compare the signatures.

Cost of operating the plan will run into thousands of dollars for the sellers particularly among those companies using the refund plan. There will be clerks' hire, postage and federal check tax. No one has any idea what the cost will total in the territory. All this means a smaller realization on the industry's product.

Refuses to Halt Military Search For Illegal Production

OKLAHOMA CITY, Aug. 27 THREE portly, elderly district judges, sitting in a dingy courtroom in Oklahoma county, decided Thursday that they were without authority to interfere with the governor's martial law activity.

Thus ended the first assault of an Oklahoma City operator on the renewed occupation of that field by national guardsmen, which was ordered by the governor on June 21. The military force is free to carry on with its spade work around properties where violation of proration orders is suspected.

That the application for injunction will be appealed was an intimation given in court by the attorney for the Russell Petroleum Co. and there is the possibility that a higher court will listen to the assertion that the "due process" clause of the constitution has been outraged.

For the time being, however, Lieut. Col. Cicero I. Murray, who commands the oil field army, will pursue the course he embarked upon in June and will continue to order the closing in of wells alleged to be in violation of the Corporation Commission's proration orders. He has worked to considerable purpose and at this time 76 producing wells are shut in, 25 of them by the military order; the rest to make up overproduction in the orderly way and without resistance by their owners.

The Russell suit was based upon allegations that Col. Murray and his soldiers had laid violent hands upon the company's property, shut down the wells without going through the channels provided by law. To comply with the niceties of the law, argued Russell's attorney, the Corporation Commission should have cited the company, if it had reason to suspect violation of orders, held a hearing and made its finding.

Instead of this, the plaintiff said, no hearing had been held and no charges preferred. Col. Murray and troops, looking about the field for evidences of violation, found a pump station on the Russell property. This, the colonel publicly announced, was innocent looking on the outside, but contained some well concealed pumping equipment. He ordered the station unhooked and the company's two wells closed in.

Otto B. Bradford, who was the Oklahoma City field umpire for about two years—he was removed last fall—was called as witness in the case. He now operates the Union Crude Oil Co., which has a small gathering system in the field. It was asserted that he had been transporting oil from the Russell wells.

Mr. Bradford refused to testify, saying that the colonel had openly asserted his intention of shutting down the Bradford lines and that he would stand upon his right to refuse to give testimony that might be used against him. That evening he was served with notice from Murray that he must discontinue his business of gathering and shipping oil by noon the following day, because he had not made reports as ordered, else the soldiers would take charge.

Bradford went before the three judges who were hearing the Russell case and obtained a temporary restraining order, returnable the following day. He made no appearance at the time designated, as the court had refused to grant the injunction sought by Russell, and this temporary court barrier to search and seizure by the military no longer operates.

The Russell foray is interesting only as it represents the first attempt to stop military enterprise in checking allegedly illegal production. Col. Murray has shut down several companies' wells, two of them pursuant to order of the Corporation Commission. These companies were the Wilcox Oil & Gas and the Marshall Oil & Gas.

This illegal producing, or "oil stealing," as the matter has come to be known, has for some weeks been the chief topic of conversation in the Mid-Continent. It was in response to the clamor and at the request of some Oklahoma City operators that national guardsmen were moved into the field. In theory, the field had been under martial law since August, 1931, but only two or three soldiers were on duty. Now there are 70 officers and men, divided into three shifts of eight hours each.

Col. Murray's estimate is that since November, 1931, the volume of oil produced in excess of the allowable averaged about 30,000 barrels per day. It was moved from the field by pipeline and tank cars. He thinks that most of this came from 25 wells belonging to six of the smaller companies whose wells are mostly in the Wilcox sand area at the north end of the field. These wells have been shut in and, according to Col. Murray, the methods of assuring their continued idleness is constant patrol of the guards, seals on fittings and tanks and in some cases the use of chains and locks on the gate valves.

The Oklahoma City field, particularly the north end thereof, is quite confusing and it is possible to mislead proration enforcement agents on the location of pipelines. The wells are close together and it is difficult to tell at a glance just which operator owns storage tanks. It fits into no regular pattern, as is the case where wells are wide apart and regularly spaced.

The military are requiring each pipeline company, whether owners of a trunk line system leaving the field or local company which buys and gathers oil and tenders it to another line or moves it to loading rack,

Files Charges Against Three
By Telegraph

TULSA, Aug. 30.—Lieut. Col. Cicero I. Murray filed charges with the corporation commission Aug. 29 that Blackwell Oil & Gas Co., Russell Petroleum Co., and Ed S. Holman, Inc., have exceeded their allowable production. Wells of the last two named already are shut in. The three are charged with overproducing 675,000 barrels. Charges are to be filed against others at once.

to file maps of their field systems showing wells to which the lines are connected.

Col. Murray says that meters have been installed, in accordance with the executive order of June 21, on all trunk pipelines except one and that this one would be in by Sept. 1. Daily checks of these meters against pipeline run tickets and the daily reports of the pipeline companies will be made by the military. The orders call for daily reports on all runs, whether on oil leaving the field or from lease tankage to other storage. A complete monthly statement is also required. Reports are received from railroads showing tank car movements. Both consignor and consignee are shown in this report.

For a while early this year a sizeable volume of oil was being moved about the field in trucks. Most of it was hauled to local refineries. Permits are now required to operate trucks and the 15 who are thus authorized to haul crude oil make daily reports. These show the lease from which the oil was loaded and the purchaser. Night hauling is not permitted.

With the system that has been set up, the principal "leaks" from the field should be stopped. Throughout the course of proration in Oklahoma City the trouble has been failure to procure enforcement of the orders. The Corporation Commission has made it clear at all times that it cannot of itself gather the evidence on which to base prosecution for violation. It has no money with which to employ supervisors and attorneys and, busy as it is with a hundred things besides the oil business, it is always covered up with work.

The operators themselves undertook the work of selecting and paying the personnel to handle proration, subject to the approval of the commission. The multiplicity of suits against the commission has acted as a barrier to enforcement. Recently, the firm of Hayes & Richardson, of Oklahoma City, was retained to assist in the prosecution of cases where evidence has been obtained of illegally producing. The minor case of the Russell Petroleum Co. managed to tie up three days of this firm's time, when it was just starting to prepare complaints against 10 companies against whom the military have gathered evidence.

The way now seems to be cleared, unless some other court complication arises, for prosecution of the suits that are in the offing. Complaints will be filed with the commission, which will hold a hearing on each one. If it finds the evidence sufficient, it will impose fines. Under the law this may be as high as $500, with each day's violation constituting a separate offense.

Sales of Third Grade Gasoline Rise in Second Quarter

SALES of third grade gasoline in the middle west rose rapidly during the second quarter cutting in on the gallonage of both premium and regular grades. Premium grades lost the most ground.

These facts are revealed from a compilation of figures supplied by NATIONAL PETROLEUM NEWS by seven integrated Mid-Continent companies which distribute largely in Standard of Indiana territory.

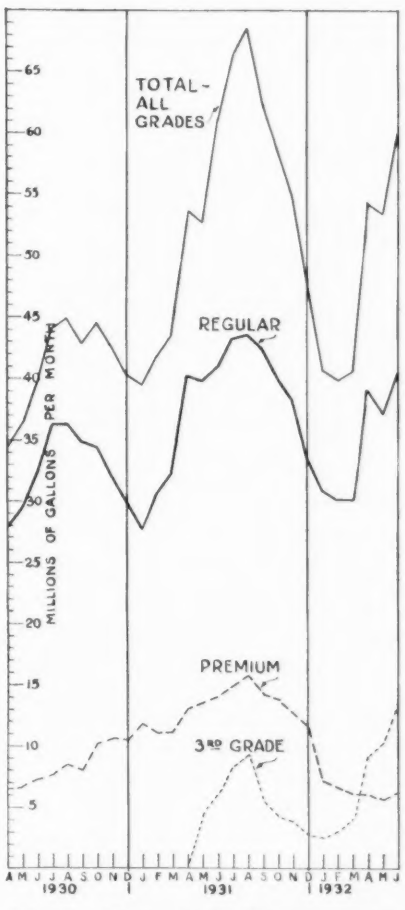


Fig. 1—Sales of gasoline by grades through owned and controlled outlets of seven integrated companies in the Mid-Continent

In the second quarter these seven companies sold 167,950,000 gallons of gasoline through owned or controlled stations. This compares with 172,714,000 gallons in the second quarter of 1931, a drop in gallonage of 2.8 per cent.

Sales of premium gasolines by the seven companies totaled 18,062,000 gallons, a drop of 55.7 per cent from the 40,759,000 gallons sold in April, May and June last year.

Sales of regular gasolines totaled 117,203,000 gallons, a drop of 3 per cent from the 120,781,000 gallons sold in the same quarter last year.

Third grade gasoline sales totaled 32,686,000 gallons in the quarter, as compared with 1,755,000 gallons in the second quarter last year, an increase of 1762 per cent.

Fig. 1 is a chart showing the volume of each grade of gasoline sold each month by the seven companies since April 1, 1930. This is an extension of the chart carried in the May 18 issue which was the first survey by this publication of the trend of gasoline sales by grades. The chart shows that the sales of third grade gasoline exceeded the sales of premium gasolines for the first time in April and have mounted steadily since.

Fig. 2 is an analysis of the sales by grades of gasoline by the seven companies in percentage of total sales through owned and controlled outlets. Premium gasoline sales in the second quarter represented 10.7 per cent of all sales as compared with 16.5 per cent in the first quarter of the year. Regular gasoline constituted 69.8 per cent of all sales in the second

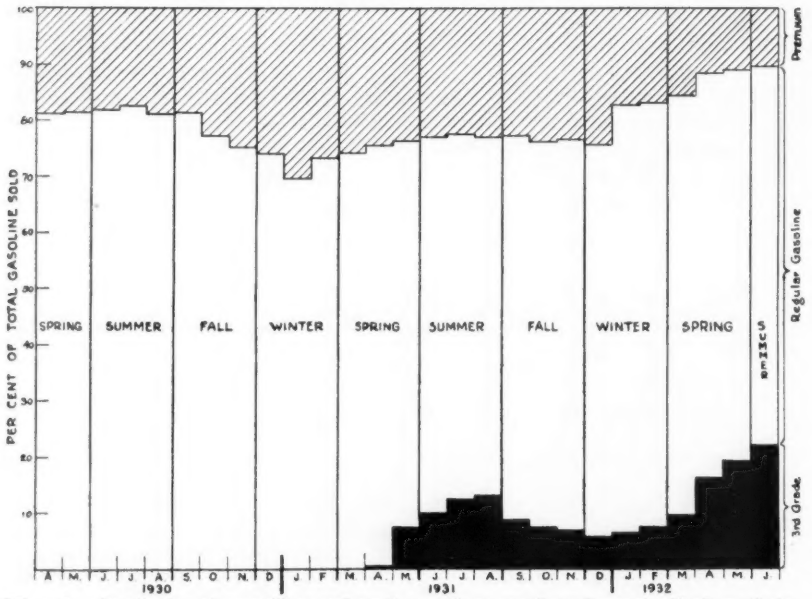


Fig. 2—Analysis of gasoline sales through owned and controlled outlets of seven Mid-Continent companies

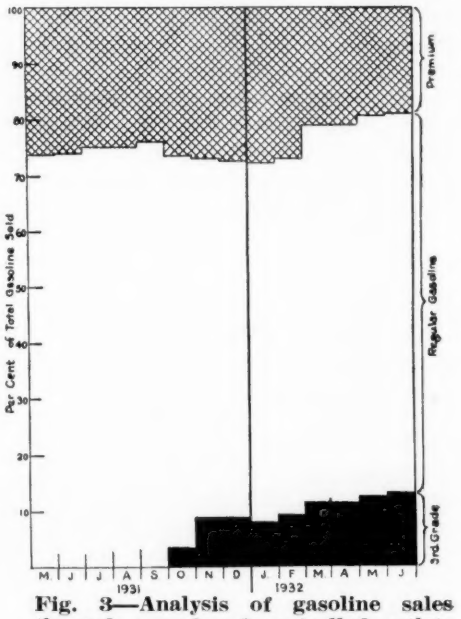


Fig. 3—Analysis of gasoline sales through owned and controlled outlets of three Ohio companies

quarter and 75.4 per cent in the first quarter. Third grade sales were 19.5 per cent of the total in the second quarter and 8.1 per cent in the first quarter of this year.

Following is the break-down by months for the first half of the year:

	Per Cent of Total		
Month 1932	Premium	Regular	Third Grade
Jan.	17.4	76.0	6.6
Feb.	16.7	85.7	7.6
Mar.	15.5	74.6	9.9
Apr.	11.3	72.2	16.5
May	10.7	69.9	19.4
June	10.3	67.5	22.2

These figures show that the big switch to third grade gasoline in the middle west came about the first of April. Since then the gallonage of this grade has been rising steadily and sharply.

In Ohio the trend has not been so sharply upward. Fig. 3 shows the percentage of sales by grades of three companies doing business in this state. In some of the hilly parts of Ohio the sale of premium gasolines has held up well. In the more level portions, however, experimenting motorists have found the third grade satisfactory and a large percentage of third grade gasoline has been sold.

Compared with an average of about 10 per cent third grade in the first quarter, sales in April were 11.3 per cent, in May 12.6 per cent and June 13.2 per cent. Premium sales in Ohio dropped sharply in March, were steady at 21.2 per cent in April, dropped to 19.3 per cent in May and to 19 per cent in June. Regular gasoline sales were 67.5 per cent in April, 68.1 per cent in May and 67.8 per cent in June.

Committee Scans Road Knock Test Results

CLEVELAND, Aug. 25.—The Co-operative Fuel Research Detonation Sub-committee met in Waukesha, Wis., this week for an exhaustive study of the data obtained during the road tests which have been made during the last three weeks. These road tests were made on Uniontown Hill, Pa. Fifteen popular makes and models of cars were used, and fifteen different motor fuels tested.

The tests were carried out under the supervision of the Road Test Correlating group of the C. F. R. Detonation Subcommittee, in which 14 petroleum and automotive laboratories collaborated, including U. S. Bureau of Standards. Test work began on Aug. 3, and continued through Aug. 17; the cars were driven 15,000 miles, or the equivalent of 2500 runs up the hill. The tests used 350 gallons of sample fuels and 400 gallons of standard reference fuels.

The tests required taking of about 10,000 detonation observations; each was made with three men in a group, usually, with two to four groups. During the meeting a series of meetings were held for discussion of the results obtained, and a preliminary analysis of results was made. The subcommittee then transferred its activities to the laboratory of the Waukesha Motor Co. where laboratory engine tests are being carried on to complete the work of correlation. These tests began Aug. 22.

The purpose of these tests is to develop a suitable and satisfactory working method for conducting anti-knock tests to correlate with laboratory tests. A. L. Beall of Vacuum Oil Co. is chairman of the Road Test Correlating Subcommittee which conducted the road tests.

Oklahoma Crude Demand Lower

By Telegraph

TULSA, Aug. 30.—Demand for Oklahoma crude in September will average 397,715 barrels per day, a drop of 11,975 barrels the Oklahoma Corporation Commission was told by purchasers Aug. 29. Chief loss is at Oklahoma City where purchasers nominated 75,720 barrels per day, a cut of 11,630 barrels from the August allowable but approximately equal to actual pipe line runs over the first 25 days of the month.

Plant Expenditures Turn Atlantic's Operations into Profitable Ones

CLEVELAND, Aug. 26

ATLANTIC REFINING CO. spent $7,468,000 the first half of 1932 for expansion and improvements to its plant, continuing a policy which has permitted the institution of economies that show results in the semi-annual earnings report.

Atlantic had a net profit of $3,184,824, the first half of 1932 after all charges, reserves, estimated federal income taxes and an inventory adjustment downward which amounted to $929,031. The first half of 1931 Atlantic had a net loss of $4,012,962.

The profit was made possible by cutting expenses and this cutting of expenses was made possible in part by capital expenditures. The company has aimed at lower cost of raw materials and in that connection spent $4,657,000 during the six months to get additional crude oil properties, principally in the East Texas field. Other expenditures were: pipelines and marine transportation $276,000; refining $772,000, marketing $1,756,000, and miscellaneous $7000.

Gross income of the company the first six months of 1932 was down approximately 18 per cent from the gross the first half of 1931, but costs and expenses were reduced more than 30 per cent. Compared with the first half of 1929 gross income was down 55 per cent this year but costs and expenses were almost 50 per cent down although the company has expanded considerably in the intervening time.

J. W. Van Dyke, chairman, in his report to stockholders said:

"Obviously, with operating income much reduced, it would be impossible now to record a profit of about 5 per cent on the capital investment if operating charges had not been sharply curtailed. It is towards this end that the efforts of your management have been directed, not only during the six months last past, but throughout the full depression span.

"Somewhat specifically, such efforts have aimed at lower costs of raw materials, lower transportation costs for crude materials and products, larger manufacturing yields of higher valued products, and lesser operating expenditures in all divisions of our activities. All of these have been measurably successful, although the effectiveness of the first named has been offset, in part at least, by the now all but universal prorated control of crude oil production with its sequential relatively high prices for crude oils at the wells. The outcome of these restrictions is that today the margin between posted prices for crude oils at the wells and the market value of finished products is smaller than corresponding margins that have prevailed at any time for several years past. . .

"The combined effect of the savings achieved is reflected in the statements now placed before you. To a large extent such economies have resulted from the capital expenditures for expanded and additional facilities reported to you from time to time."

Our Industry's Size As a Market

ATLANTIC REFINING CO. spent $7,468,000 the first six months of 1932 on expansion and improvements. As a result it turned from a loss of $4,012,962 in the first half of 1931 to a net profit of $3,184,824 the first half of this year.

Except for the acquisition of some crude oil properties and the completion of a gasoline pipeline in Pennsylvania these expenditures represented nothing extraordinary. Atlantic Refining Co. represents less than 2 per cent of the oil industry but its expenditures for expansion, or development, and improvements may conservatively be considered as representative of the whole industry. At the rate of its expenditures the entire industry in this country probably spent on development and improvements close to $400,000,000.

That is the market the oil industry represents in six months of a depression year.

That expenditure is exclusive of outlay for raw material and in the ordinary conduct of its business of lifting crude oil, manufacturing products and marketing the products. The latter class of expenditures probably amounted to four times that of the former or approximately $2,000,000,000 in six months.

Consolidated Income Accounts of Atlantic Refining Co. for First Six Months of Each Year

	1932	1931	1930	1929
Gross operating income....	$41,579,018	$50,966,346	$65,460,944	$75,855,645
Costs and expenses	30,590,180	44,581,901	56,458,830	59,161,277
Inventory adjustment	929,031	2,940,095	.....	.....
Insurance, other reserves	319,652	334,619	260,841	314,261
Federal, general taxes.....	1,262,403	751,802	881,330	1,803,651
Intangible dev. costs.....	71,097	37,220	588,429	544,353
Depletion, amortization ..	545,836	843,968	500,135	651,978
Depreciation, retirements	4,514,293	4,742,069	4,623,698	4,966,090
Net operating income	$3,346,526	$3,265,328	$2,147,681	$8,414,035
Proportion of losses of affiliated companies not consolidated	132,509	209,291	†476,639	.....
Non-operating income	395,684	110,448	571,507	841,458
Total income	$3,609,701	*$3,585,067	$3,195,827	$9,255,493
Interest	424,877	427,895	377,004	393,084
Net profit	$3,184,824	*$4,012,962	$2,818,823	$8,862,409

*Loss or deficit. †Profit.

Late Production News

AMERADA is starting a wildcat test on a 90,000-acre core drilled structure in southern Frio county, Texas. Six companies will co-operate in a search for deep production in the Lost Hills district of California. A wildcat a mile and a half from production on the north dome of Kettleman Hills is expected to pick up the Temblor within 100 feet.

In Kansas two wildcats reported shows indicating the discovery of new pools and the Voshell pool was extended materially. A 2-mile extension of the new Conroe field is expected on the basis of showing made before setting casing.

Kansas

TWO Kansas wildcats with interesting shows were the high points in the Mid-Continent production news of the week. The most important of these was the Skelly Oil Co., No. 1 Cunningham, SE SW, 20-27S-10W, in Kingman county. Operators have been closely following this well for several weeks for the section as logged has indicated that the location had very definite possibilities. The Mississippi lime was missing and the Viola lime had the largest gas horizon ever found in the state. Thus a structure of fair proportions had been assumed.

Late reports from the well show it to be making about 25 barrels per hour though the fluid is testing 8 per cent b.s., and 4 per cent water. The pay horizon is the Siliceous lime which was topped at 4093 feet and penetrated to a depth of 4190 feet. It is thought that a portion of the water may be due to drilling with a loaded hole all the way as a protection against blowouts. Pressure exerted against the face of the sand by the weight of the drilling fluid may also have had a plugging off effect and a clean-out may result in a considerably greater production of oil.

The present record of the well, however, is sufficient to warrant the report of a new Siliceous lime pool for western Kansas. About a mile southwest of this well, the same company has two producers bottomed in the Lansing formation at approximately 3500 feet. These wells are estimated as being good for about 400 barrels each.

The first oil or gas discovery in Ford county was made in the well of Swaim et al in 21-25S-24W. This well is reported as a smaller gasser with the volume increasing as clean-out proceeds. The pay horizon is the Viola lime, the well being bottomed at 5209 feet, and present plans are to continue to the Wilcox or Siliceous lime in the event present production does not continue in commercial quantities. Ford County is in the southwestern portion of the state and the well is located about 11 miles northeast of Dodge City.

An extension of one half mile north and one quarter mile west for the north Voshell pool of southern McPherson county was registered by the Gypsy Oil Co., No. 2 Stuckey, NE NE NE, 33-20-3W. The Wilcox sand was topped at 3448 and when 10 feet in, the well swabbed 44 barrels per hour.

In Ellsworth county, the well of Slick et al, SW SW NW, 1-17-10W, reported two weeks ago as having exhausted its flow within a few weeks of completion, is back on production again after a clean out. The pay is Siliceous lime from 3345 to 3395 and another lime pool seems to be certain. Its present production is 20 barrels per hour from the lime and 150 barrels daily from the Kansas City-Lansing formation logged from 3140 to 3225. The latter production is coming up between the 6-inch and 8-inch casing. A 10,000 barrel storage tank is being erected for a real test of the well.

Daily Average Production Important Districts, American Petroleum Institute Figures

(By Telegraph)

	Week Ended Aug. 27 Barrels	Aug. 20 Barrels
Okla. City	70,600	65,750
Total Okla.	387,150	390,600
East Texas	327,700	328,850
Total Texas	862,750	858,050
California	474,400	474,100
East of Rockies	1,639,600	1,636,700
Total U. S.	2,114,000	2,110,800
Crude Imports	9,143	45,428
Total New Supply	2,123,143	2,156,228

Oklahoma

Pottawatomie and Seminole counties held most of the interest in Oklahoma production news though the completions registered there were of more or less routine nature. Gypsy Oil Co.'s. No. 1 Community Masters, SW NE, 25-6-4E, in the west Konawa area in southern Pottawatomie county, was standing full of oil and a swabbing test is to be made. The pay is thought to be lower Simpson from 3448 to 3452. The area to which the well gives a slight extension is jointly owned by a number of oil companies.

In Seminole county the same company added another Wilcox sand producer to the West Seminole pool with its No. 2 Pompey, SE NW, 29-9-6. Total depth of the well is 4142 and a swabbing test resulted in production of 425 barrels. Placed on the gas lift the well should make 1000 daily. Offsetting this well, Amerada et al brought in their fifth producer, their first in the Wilcox sand, and its initial gauge on the gas lift was 2322 barrels.

California

A WILDCAT test being drilled by independent interests on an extension of the Kettleman Hills North Dome was reported making hole in a brown shale body that overlies the Temblor producing formation in the proven area.

This project—the Lillis and Welch No. 1 of the North Kettleman Oil and Gas Co.—is located on the northwest plunge of the structure and approximately a mile and a half beyond the limits of present production. Latest reports on the hole showed a depth of 8345 feet with a crew expected to pick up the Temblor within the next hundred feet. This places

the probable completion depth at about 9800 to 10,000 feet.

In the coastal area, General Petroleum Corp. has started a new test—Barnard 15-A—to be drilled below the 9000-foot level in search of a rich sand developed by Associated on its Lloyd lease at about 9700 feet.

A new attempt to develop commercial production in the Lost Hills area, approximately ten miles northeast of the North Belridge field where commercial production was recently developed in a deep test, is to be made on a joint test by a group of operators holding acreage in the district. Test will be drilled by Associated on the Williamson property, which it recently acquired from Ohio Oil Co. on a one year option to drill. This test may not be started for several months.

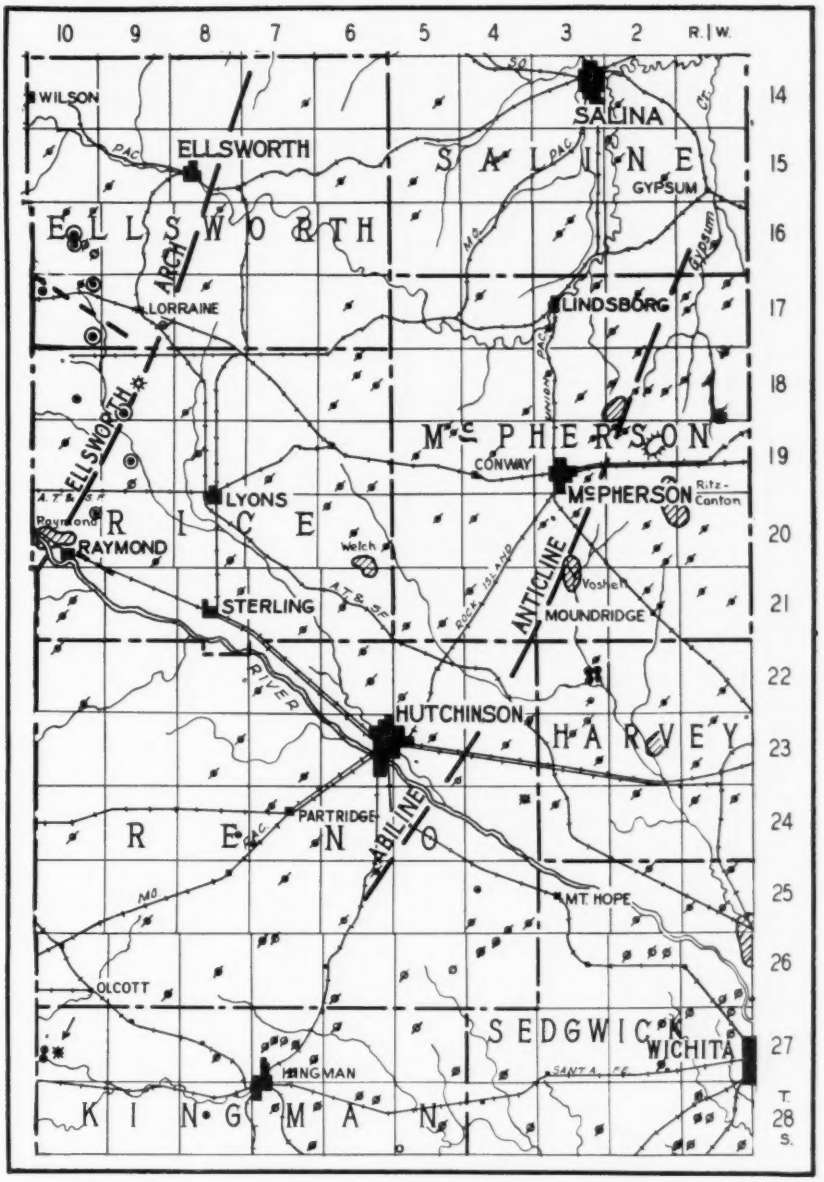
At least three unsuccessful attempts have been made in the past year to develop commercial production in the lower formations at Lost Hills, although the area has yielded shallow production for many years. In the spring and summer a year ago, Getty Oil Co., Universal Consolidated, and General Petroleum failed to find the expected deep sands.

Texas

THE 7550 completed oil wells in East Texas, August 20, had yielded a total recovery in the nearly three years since the field's discovery, of 183,911,000 barrels of crude petroleum. This represented an average fractionally in excess of 1768 barrels an acre.

Beginning Sept. 1, the field's more than 7700 wells to be producing at that time will be prorated under new orders of the railroad commission. Hearings were held at Austin, August 29-30.

Conroe, 40 miles north of Houston in Montgomery county, was producing nearly 10,000 barrels daily the last 10 days of August, after the commission had withdrawn its earlier order prorating the field at 220 barrels per well daily. Production thereafter was at or above 800 barrels per well until the commission could hold a hearing set for Aug. 30 and issue new regulations. Its order was withdrawn after a court attack of the Alpha Oil Corp., which held up its suit when the commission nulled its proration quota.



Map of western Kansas showing the location of the new Siliceous Lime discovery of the Skelly Oil Co., in Kingman county and its relation to other producing spots in the general area

There are now 10 producing wells in the field, which gives promise of being extended two miles southeast by Humble Oil & Refining Co's. No. 1 Dobbins, Ransom House survey, which cemented casing after drilling to 5113 feet. The test showed considerable oil and gas before setting casing and a producing well is expected.

A southern Frio county test in the interior coastal plains region of South Texas is proposed by Amerada Petroleum Corp., which has core-tested and now will drill on one of the largest structures in the entire country. Amerada's block consists of approximately 90,000 acres. Water well has been drilled and tools are being moved in for the oil test in the W. F. Halsell Survey, on Halff & Oppenheimer land. The test will be made in the beginning to the Edwards limestone pay horizon of the Luling fault zone region and, failing there, the drill may be carried on to the Trinity series beds.

A. P. I. Directors Meet Sept. 8

NEW YORK—Directors of the American Petroleum Institute will meet at the Institute offices here at 250 Park Ave. Sept. 8. Reports of the activities of the refining, producing and marketing divisions of the industry will be laid before the directors, as has been the practice each month of Amos L. Beaty, president, through this year.

The PANORAMA of PETROLEUM In The MID-CONTINENT

By Lawrence E. Smith
N. P. N. Staff Writer

RECENT announcement of the Department of the Interior concerning royalties on public lands has caused some disquiet among Mid-Continent operators. Royalty payments, it said, henceforth will be on the basis of 100 per cent of gross production, less the actual impurities in the oil.

The trade custom has been, in Oklahoma and Kansas, to deduct three per cent from the gross for b. s. and water and to settle with the royalty owner, as well as the producer who sells to a purchasing company, for 97 per cent. The department sets aside this, so far as public lands are concerned, and will require payment for its royalty on full 100 per cent basis, except for that percentage of impurities found by centrifuge or other tests to exist in each tank of oil.

Mid-Continent headquarters for the U. S. Geological survey, which enforces regulations on leased public lands for the Department of the Interior, are in Tulsa. The amount of oil production from public lands in the Tulsa district's area of control is not great. There a few hundred barrels in Louisiana, some in the Red River area just north of the Burkburnett field and some in southeastern New Mexico. The big production on public lands is in the Rocky Mountain country and in California. The same basis of royalty payment now brought to the Mid-Continent has been used in the Rocky Mountain district for some years.

Mid-Continent operators, it is understood, will ask for an extension of time by the department. Operations on Indian lands, which constitute a large part of the producing industry of Oklahoma, are not affected by the new ruling, but operators fear they well be. With one basis of payment for the producer and another for the royalty owner, great confusion would result and considerable extra bookkeeping expense.

East Texas Still Gives Concern

Reports in trade circles are that the plaintiffs in a recent suit attacking the validity of Railroad Commission proration orders in East Texas are getting ready to take another hitch at the same thing. It will be recalled that in July three federal judges issued an opinion which upheld the state as against several producers who joined their cause of action. That decision was upon the application for temporary injunction and the case is yet to be heard on its merits.

The court, in that opinion, indicated that it had to find for the state because the plaintiffs had failed to show facts supporting their contention that the commission was more concerned with the necessities of the case, i.e., maintenance of production which fitted market demand, than with prevention of waste.

A report which gained currency the past week is that the commission is considering the ordering of a flat allowable of 50 barrels per well in East Texas, raising it seven barrels. To do that, it would pare some off other prorated fields, such as Yates, Van and the Gulf Coast, and give it to East Texas. Maybe that would satisfy the complaining operators in the latter field and they would drop their lawsuit. If they didn't the commission would be in a bad way before the federal court. To abandon the 325,000-barrel daily figure for the East Texas field, which the commission has from time to time found was the maximum withdrawal conconant with prevention of waste, would be to admit that it was being governed by the "necessities," whatever they are.

The life of a public service commissioner who deals with the oil question is no bed of roses. A sign that used to hang in many a dance hall read, "Don't shoot the piano player; he 's doing the best he can." It might well hang in the commissions' courtrooms.

Industry in Good Position

"Analysis of the official operating statistics of the petroleum industry for the period Jan. 1 to June 30, 1932, again indicates that despite the severe economic situations which continue to confront the nation and its industries, this industry has suffered only a small reduction in the total volume of its consumer demand and still retains its promising and relatively stable economic position."

This is the introduction to an extended analysis of the half-year-figures, prepared by Clarel B. Mapes, technologist for the Mid-Continent Oil & Gas Association, and published in that association's monthly bulletin.

Total demand for all petroleums averaged 2,618,396 barrels per day over the six months period, compared to 2,780,950 barrels for the same period in 1931. This was a loss of 5.85 per cent. Export demand lost 30,044 barrels per day, or 8.66 per cent and domestic demand,

Attack Constitutionality Of Texas Penalties

HOUSTON, Aug. 27.—Judge Randolph Bryant, in East Texas federal district court at Sherman, Aug. 25, enjoined the Railroad Commission of Texas and the Attorney General's department from proceding with the state's $500,000 penalty suit against the American Liberty Oil Co., Golding & Murchison, and others operating in the East Texas oil field.

Defendants said that the penalties sought by the state for alleged violation of the Texas oil and gas conservation laws were excessive and, therefore, that the law providing for them is unconstitutional.

A three-judge federal court will hear the case at Houston, Sept. 19.

which in the first half of 1931 averaged 2,433,862 barrels daily, fell 132,510 barrels, or 5.44 per cent.

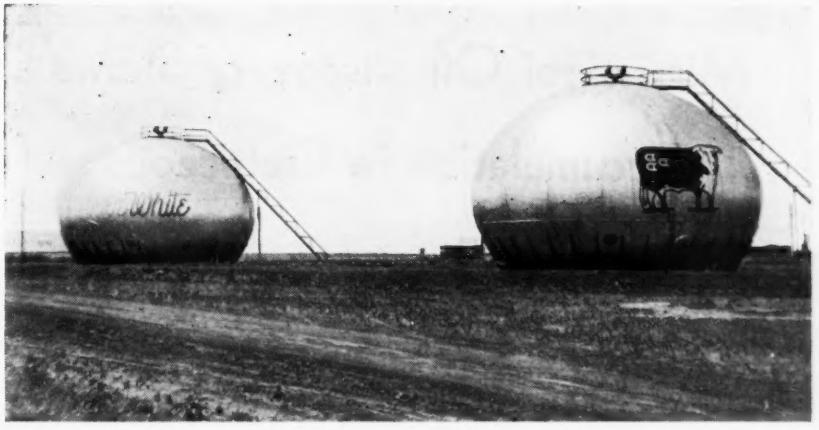
In the motor fuel field, Mr. Mapes' analysis shows a loss in total demand, including exports, of 5.75 per cent, while the domestic demand declined 5.03 per cent.

"While these data do not cover a sufficient period of time, yet they are quite indicative that, for as many months as the statistics are available, the trend of motor fuel consumption is following those predictions made early in the Spring by committees of the American Petroleum Institute and the Federal Oil Conservation Board," says Mr. Mapes.

"It is generally felt by students of oil industry economics that the total domestic and export demand for motor fuel over the whole year 1932 will not vary greatly from the estimates and predictions made by the aforementioned committees."

Mr. Mapes concludes with a little warning. Stocks of motor fuel, he says, must be kept to the recommended levels, regardless of the demand conditions which arise. Demand has not decreased more than was expected, and conditions "may be said to be optimistic, but regardless of these facts, the level of motor fuel stocks is the one single economic guide for the entire petroleum industry.

"As of June 30, 1932, the stocks of all motor fuels totaled 60,156,000 barrels. The Economics Advisory Committee of the Federal Oil Conservation Board suggested 59,450,000 barrels as the proper stocks on this date. There is a difference of only 706,000 barrels above the recommended level. The stocks of gasoline at refineries on June 30 totaled only 38,526,000 barrels. The advisory committee had suggested 40,000,000 barrels as an economically adequate level. The actual level on June 30 was 1,474,000 barrels below the refinery stocks suggested. This condition presages stability and it should not be disturbed under any condition. Such stable condition can absolutely be maintained if all branches of the industry will so regulate their operations as to continue motor fuel stocks at the accepted economic levels."



Spheroidal tanks at the Waggoner Refining Co. plant, Electra, Texas, which carry the Three D brand of the famous Waggoner ranch which has been adopted as the company's gasoline brand also

Second Quarter Supply and Demand Estimates Close to Actual

TULSA, Aug. 27.

FORECASTS by American Petroleum Institute and Federal Oil Board committee covering production and consumption in the second quarter have been remarkably accurate according to an analysis made by Clarel B. Mapes, assistant secretary of the Mid-Continent Oil & Gas Association.

Total stocks of motor fuel June 30 were only 1.17 per cent or 706,000 barrels above the level recommended by the federal committee. As compared with A. P. I. committee recommendations total motor fuel stocks were 501,000 barrels or 0.83 per cent high.

Total demand for motor fuel in the second quarter as estimated by the federal committee was 296,000 barrels or 0.26 per cent greater than actual demand. The A. P. I. committee estimate of total motor fuel demand in the three months was 2,604,000 barrels or 2.29 per cent below actual demand.

Mr. Mapes suggests that estimates for the third and fourth quarter may not be quite as accurate as those for the second quarter but he believes that they will be within a reasonable degree of error.

The following table shows how the actual operations varied from estimates of the two committees:

Comparison of Second Quarter Supply and Demand Estimates With Actual Operations

Thousands of Barrels

	Actual Operations	Federal Committee Estimate	Difference from Actual Per cent	A.P.I. Committee Estimate	Difference from Actual Per cent
Domestic Demand for Motor Fuel	101,863	103,600	+1.71	100,900	—0.95
Export Demand for Motor Fuel	11,941	10,500	—12.07	10,300	—13.74
Total Demand for Motor Fuel	113,804	114,100	+0.26	111,200	—2.29
Imports of Motor Fuel	4,088	4,400	+7.63	5,000	+22.31
Required Domestic Supply of Motor Fuel	109,716	109,700	—0.01	106,200	—3.20
Change In Stocks of Motor Fuel (Suggested)	—5,646	—7,500	**	—7,295	**
Required Domestic Production of Motor Fuel	104,070	102,200	—1.80	98,905	—4.96
Production of Natural Gasoline & Benzol	9,281	9,375	+1.01	*8,925	—3.84
Required Production of Manufactured Gasoline	94,789	92,825	—2.07	89,980	—5.07
Production of Cracked Gasoline	42,954	42,200	—1.76	41,150	—4.20
Production of Straight-Run Gasoline	51,835	50,625	—2.33	48,830	—5.80
Total Crude Run To Stills	218,127	207,000	—5.10	198,496	—9.00
Crude Used As Such	2,617	3,400	+29.92	.....	.....
Crude Required for Domestic Consumption	220,744	210,400	—4.69	.....	.....
Exports of Crude Petroleum	8,600	7,500	—12.79	.....	.....
Total Demand for Crude Petroleum	229,344	217,900	—4.99	.....	.....
Imports of Crude Petroleum	20,649	17,650	—14.52	.....	.....
Total Demand for Domestic Crude	208,695	200,250	—4.05	.....	.....
Change in Stocks of Crude (Suggested)	—7,620	+2,225	**	.....	.....
Required Domestic Production of Crude Petroleum	201,075	202,475	+0.70	193,296	—7.38

*By analysis.

**Suggested—no estimate made.

Mississippi Oil Discovery Shows Accumulation in Cretaceous

By Paul Wagner
N. P. N. Staff Writer

HOUSTON, Aug. 25

MAINLY scientific interest attaches to the completion of Mississippi's first commercial oil well, south of Jackson on the anticline of the same name.

The well, No. 1 Warner of Henslee and others, completed in chalk formation at 2469 feet, in sec. 14-5S-1E, has been previously reported good for estimated daily production of between 200 and 300 barrels[1].

The production comes from a formation in which operators generally have little confidence; and the heavy character of the oil is against its representing an important deposit, other conditions considered.

Geologists take the position that if the deposit has moved laterally into the present trap zone then the accumulation probably is not extensive; nor do they believe that, under such circumstances, the reservoir would be capable of yielding material quantities of sustained production.

Should the future show the oil source to be from deeper horizons, migrations reaching the chalk level through conditions of structural faulting, or otherwise, geologists would attach greater commercial importance to the find. Meantime, there is no disposition to minimize its scientific importance.

The Jackson anticline and other important geological structures have been known for years to exist on the east side of the Mississippi embayment in the states of Mississippi and Alabama; overlain by bedding planes equivalent in geological age to the important petroleum producing horizons on the west side of the embayment in Texas, Louisiana and Arkansas.

The Ripley, Eutaw and Tuscaloosa formations, all of which correlate with Cretaceous beds yielding oil in North Louisiana, South Arkansas and East Texas are the principal sources from which petroleum may be expected in Mississippi or Alabama.

In their order, they correspond to the Nacatoch, Blossom and Woodbine sands of the western region mentioned. The Selma chalk, which is found below the Ripley formation, corresponds to the Austin chalk marker bed of East Texas and its equivalents in Louisiana and Arkansas.

Development of the Jackson gas field, on the north and northeast flanks of the Jackson anticline, in 1929-1930, was accompanied by a few heavy oil showings at the chalk level, similar except as to quantity to the present discovery oil well. None of the earlier showings, however, attained commercial quantity.

IN THE gas area of the Jackson anticline, 10 miles north of the present oil well, nearly 75 gas wells have been completed. They form an important fuel supply for the central Mississippi region. Production comes from the chalk horizon logged between 2400-2500 feet.

A number of tests for oil have been drilled over a period of years down-dip of the Jackson anticline, several reaching deep levels. None was conclusive, however, as it has not been shown that they were correctly located on the structure to adequately test oil possibilities.

Gas and oil showings at Jackson, and elsewhere in the Coastal plains region of Mississippi, bear little if any relation to gas in the Amory region, northeastern Mississippi. The Amory area is structurally on the Cincinnati Arch, which is related to the Appalachian folding of great geologic age, extending southwesterly into the region from Tennessee, Kentucky and other eastern states.

Any production to be found eventually in the Amory region would come from Paleozoic beds and would not be comparable in any manner to yields from Cretaceous formations farther south and west in the Coastal plains region.

One of the closely watched subdivisions of the Coastal plains area is the Hatchetigbee anticline, in southwestern Alabama, in connection with which structural features have been mapped along the northwest-southeast trend of Cretaceous bedding near Meridian, Mississippi. Sporadic drilling for years has failed, however, to discover commercial oil in any part of this region.

Again, it may be said the tests have been inconclusive, both because of the great size of such structures as the Hatchetigbee anticline and because the number of tests drilled over wide areas have been insufficient on which to make adequate subsurface geological correlations.

Oil tests now drilling in Alabama include one in Washington and two in Mobile counties, both southwest of the Hatchetigbee structure in Clarke and Monroe counties.

In Washington county, the South Alabama Oil & Gas Co. has derrick for A-1 St. Stephens, in 26-7N-1W; in Mobile county, Ohio Oil Co. is drilling shale at 5500 feet in No. 1 Bethel, 34-3S-2W, and J. C. Prine and others are down 2375 feet in their Mobile & Ohio railroad No. 1 test.

A Lamar county test of P. J. McAlpine and others, setting liner at 3125 feet, in 22-15S-17W, is in the Paleozoic area in northwestern Alabama. In Mississippi, the Monroe county test of P. J. McAlpine and others, No. 1 Charles Rye, 22-15S-16W, drilling at 1475 feet, is in the Paleozoic area west of the Alabama test of the same interests. A Lowndes county test of the Lowndes County Oil & Development Co., shut down at 2100 feet in 34-17-16, is also in the Paleozoic area.

Only one Cretaceous region wildcat is now drilling in Mississippi. It is the No. 1 Bond, 18-2N-14W, of Stauffer & Kouri, total depth 2424 feet, in Lamar county, southern Mississippi.

[1] National Petroleum News, Aug. 10-17, 1932, issues.

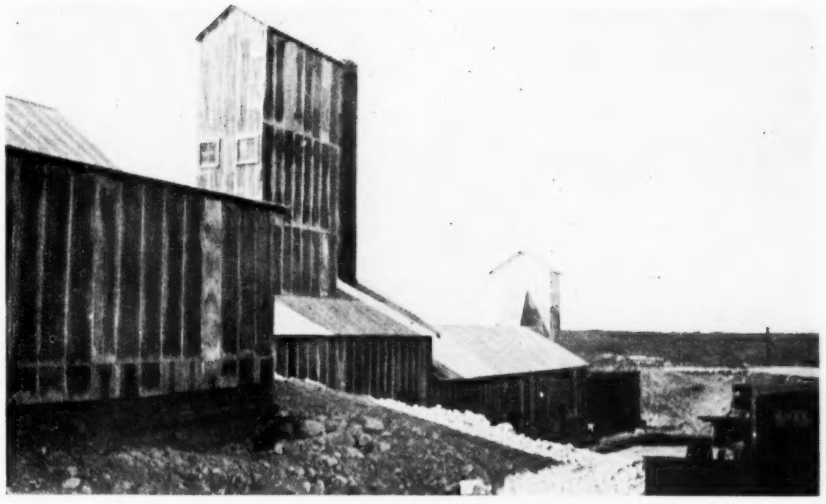


Fig. 1—View of Woodite clay drying plant of Thurber Earthen Products Co.

WOODITE CLAY

Properties and Application

By E. R. Lederer* and E. W. Zublin*

IN THE summer of 1931 a deposit of sub-bentonitic clay, suitable for decolorizing lubricating oils by contacting, was discovered in the northwestern part of Oklahoma.

The Thurber Earthen Products Co. of Fort Worth, Tex., after thoroughly investigating the deposit acquired it and named the clay "Woodite" after the nearby town of Woodward. There is available an estimated quantity of 200,000 tons of mineable Woodite. A stratum is considered mineable if the layer is not less than one foot thick and the overburden does not exceed 3 to 10 feet. Part of the overburden consists of volcanic ash which is believed to be the mother substance of the sub-bentonitic clay.

The volcanic ash consists of a mixture of crystalline and non-crystalline materials which can be separated by floating. About 15 per cent of non-crystalline material can be extracted. The extract is equal in bleaching power to Woodite. The process of transformation of volcanic ash into Woodite, which is apparently a pectization, has evidently stopped at an intermediate stage. Upon analysis the ash was found to be composed as follows:

	Per cent
Moisture of hydration and organic matter	6.8
Silicon Dioxide	67.5
Ferric Oxide	2.8
Aluminum Oxide	12.7
Manganous Oxide	0.7
Calcium Oxide	2.1
Magnesium Oxide	2.1
Titanium Oxide	.5
Potassium Oxide	1.4
Sodium Oxide	3.4
Phosphorous pentoxide	.3
Total	100.3

The ash can be used for metal polish, scouring powders, inert fillers for various purposes, manufacture of special concretes, insulating of fire proofing materials, etc. Almost unlimited quantities are available.

"Woodite" proper, when freshly mined is a soft crumbly material of cream colored, yellow and pink hues. When dried to 15 per cent moisture or less it turns almost white. In the dry state it crumbles readily and has a tendency to dust. When placed in water it swells rapidly and pulps. This disintegration though is not complete and does not replace grinding. Comparative efficiency tests show that by grinding in the dry state and then pulping about 10 per cent efficiency can be gained over the simple pulping in water without grinding.

Raw Woodite turns water alkaline to phenolphthalein. It develops an osmotic pressure of 2⅛ inches if placed in a collodion sack surrounded by distilled water. Sulfuric acid causes irreversible changes in its composition, dissolving approximately 20 per cent by weight. This behavior classifies Woodite as a clay related to subbentonites. It is however neither a true bentonite nor subbentonite.

Its specific gravity in the dry state is 1.59.

Mining

The mining of Woodite is simple. The overburden is removed by means of drag lines or fresnos and the clay thus exposed is hauled to the drying plant, which has been erected on the premises.

The drying plant besides necessary conveyor, loaders and control instruments consists principally of a 60 by 6-foot rotary kiln (Figs. 1 and 2). Channel irons on the inside pick up the clay and allow it to fall through the axis as the kiln rotates. Heat is provided from the lower end by special gas burners. The channel irons extend to within 8 feet of the lower end, a distance great enough to allow complete combustion of the gases before they come in contact with the clay.

This was found to be of importance as otherwise overheating of the clay might cause it to lose efficiency. For example, when raw Woodite was heated

*Texas Pacific Coal & Oil Co., Fort Worth, Tex.

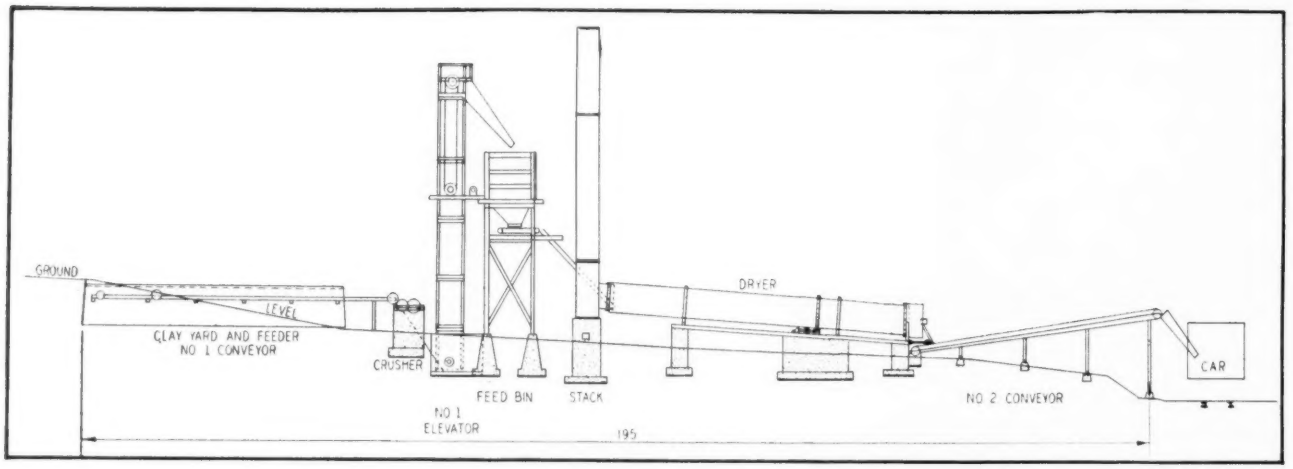


Fig. 2—Diagrammatic sketch of the drying plant shown in Fig. 1.

in a laboratory Herreshof oven to 500° F., its efficiency dropped to 78 per cent of the original efficiency, and heating it to 870° F. caused it to drop to 20 per cent of the original efficiency. On the other hand, heating to 500 and 600° F. in an air bath oven, which prevented the flame from touching the clay directly, affected the efficiency but very little.

The clay is estimated to remain in the kiln about two hours. The moisture content of the dried clay is governed by both the rate of feed through the kiln, and the amount of heat in-put. An auxiliary burner at the bottom of the stack prevents re-condensation of the water in the stack. This arrangement also permits reduction of the heat in-put at the lower end of the kiln, as the ascending steam preheats the clay before it enters the top of the kiln. The plant, a diagrammatic sketch of which is shown in Fig. 2, has a capacity of 3 to 4 tons of dried clay per hour.

The clay can be dried to less than 5 per cent moisture without appreciable loss in efficiency. However, excessive dusting and difficulties in the subsequent activation make it more desirable to keep the moisture content in the neighborhood of 12 to 15 per cent.

The dried clay leaving the kiln is a medium coarse aggregate of varying particle size, ranging from lumps not over 2 inches in diameter to fine powder.

To control the moisture content a quick method of fair accuracy to determine this moisture had to be devised. Attempts to carry out the test by heating a small sample of Woodite for a given length of time on a hot plate failed chiefly because of fluctuations in the temperature of the hot plate. An apparatus was then constructed consisting of an oil bath and a tray immersed in the bath. The oil temperature is kept between 475° and 500° F. This temperature can easily be maintained by placing the bath on a hot plate covered with about ½-inch layer of sand.

This sand bath serves as a cushion for fluctuations in the temperature of the hot plate. The clay is crushed to 30 mesh or finer, 25 grams are weighed out in an ordinary viscosity pan and placed on the tray for 15 minutes. The pan is shaken every 2 to 3 minutes. In this manner practically all free moisture is driven off and moisture determinations by this method check usually within 1 per cent of the standard method, which consists of drying at 212 to 220° F. to constant weight.

Application

Woodite after acid treatment is particularly adapted for pulp contacting of acid treated lubricating oils. Its efficiency in regard to decolorizing and neutralizing power compares very well with that of any other known clay.

The raw clay is received at the refinery in box cars. It is unloaded with the aid of drag lines into a pit whence it is conveyed mechanically into bins for storage. As clay is needed it is drawn from storage, ground in a Raymond mill to 80 per cent through 200 mesh and blown directly into a weighing hopper. The hopper discharges it into the clay cooker.

The cooker is a cone bottom lead lined tank heated through closed steam coils. Sulfuric acid either fresh or recovered from acid sludge, having a concentration of 15 to 20 per cent and a volume to make the weight of the acid in the solution one-half of the weight of the clay, is pumped into the cooker. The clay of known weight is dumped

Table 2

Rates of Settling of Woodite in Water of Varying Acidity

Water to clay (by weight)				10:1	10:1
Total Acidity, % H_2SO_4 (Phenolphthal.)				.126	.401
Free Acidity, % H_2SO_4 (Bromphenol Blue)				.0035	.041
Rate of settling, ft. per hr.					
		Actual	Avg.	Actual	Avg.
Time minutes	5	.33	.33	.12	.12
	10	.....	.....	.078	.078
	15	.72	.51	.078	.091
	20	.....	.....	.098	.093
	25	.57	.55	.098	.093
	30	.61	.55	.078	.091
	35	.....	.....	.078	.087
	40	.72	.58	.078	.086
	45	.52	.58	.098	.087
	50	.38	.55	.117	.093
	60	.30	.48	.098	.094
	70	.27	.47	.117	.098
	85	.29	.45	.117	.101
	100	.29	.43	.098	.100
	130	.20	.40	.117	.104
	160	.....	.....	.107	.104
	180	.....	.....	.107	.104
	210	.....	.....	.088	.104
	250	.....	.....	.110	.104
	300	.....	.....	.137	.110
	380	.....	.....	.059	.102
	440	.....	.....	.016	.091
	500	.....	.....	.016	.082

into it from the hopper and the mixture is agitated for eight hours with air while steam coils keep it boiling.

From the cooker the pulp is transferred into large wooden cone bottom vats for washing. As the rate of settling of the clay is a function of the acidity of the water, it is advisable to dilute the pulp as much as possible. It is good practice to divide a cook into as many parts as there are wash tanks available, in order to reduce the acidity of the resulting wash water to a minimum, and thereby increase the rate of settling. The second and third washes require much less time for settling than the first one. Thus it may take eight hours for the first wash, and five and four hours respectively for the second and third washes to settle to the same level.

The supernatant water is decanted through swing lines. After the last wash the pulp is allowed to settle until it has a solid content of 20 to 25 per cent. The total acidity* of the final pulp as determined by titration using phenolphthalein for indicator ranges from 1 to 15 mg. KOH requirement per gram of pulp. Within these limits the acidity does not affect the decolorizing or neutralizing power of the clay. Above 15 mg. KOH requirement both decolorizing and neutralizing efficiency drops off.

The influence of the acidity on the rate of settling is of great importance, should one attempt to design a continuous washing plant. The wash water should not flow in counter current to the clay pulp. Each wash tower should receive fresh water as otherwise the dimensions of the first tower would have to be enormous to take care of the low rates of settling. Similar reasoning holds true if thickeners should be used in place of towers. The rates of settling of two pulps of the same initial concentration, but of different acidity of the water are compared in table 2. The test method consisted of reading the clay level of the suspension in a 2000-

*Due to the presence of alkali and iron sulfate, the apparent acidity of the wash water varies with the indicator used for titration. Phenolphthalein measures substantially the total acidity; that is, free sulfuric acid plus most of the sulfate irons and aluminum and iron sulfate; while bromphenol blue for instance measures the free sulfuric acid only.

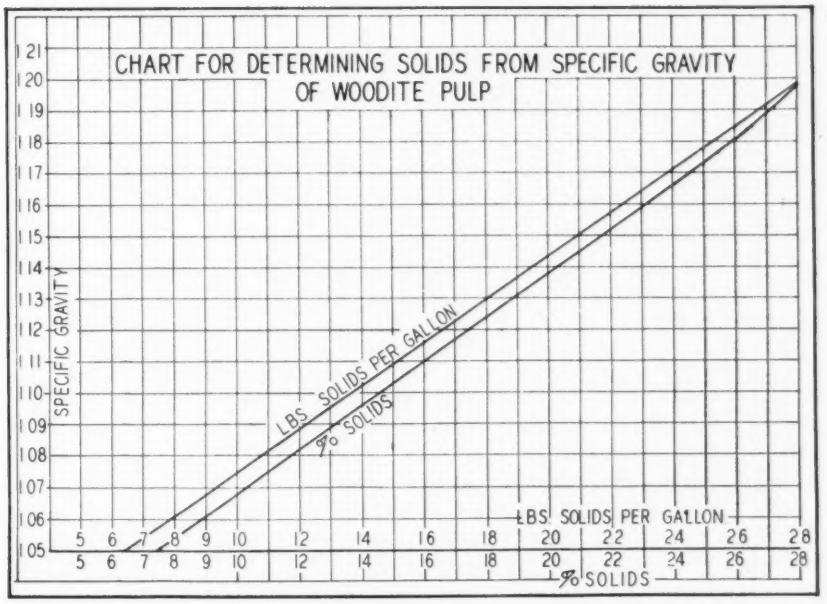


CHART FOR DETERMINING SOLIDS FROM SPECIFIC GRAVITY OF WOODITE PULP
SPECIFIC GRAVITY
LBS. SOLIDS PER GALLON
% SOLIDS
LBS. SOLIDS PER GALLON
% SOLIDS

Fig. 3—Chart for determining percentage of solids from specific gravity of Woodite pulp

cc. graduated cylinder at regular time intervals. The total height of the column was 18½ inches. A taller liquid column naturally would yield higher rates of settling, the accurate relation between height and rate of settling being unknown at present.

Rates of settling can be expressed in several ways. The "actual rate" in Table 2, equals the distance settled per time interval converted to feet per hour. The "average rate" is the distance settled per time unit from the start also converted to feet per hour.

The washed pulp which contains 20 to 25 per cent solids by weight and which is quite fluid is drawn off the bottom of the wash tanks and mixed with acid oil from the agitators. As Woodite has a slight tendency to ball, the mixing action must be quite violent, otherwise plugging of the system at some point may occur. Mixing can be carried out either in batch or continuously. The water in the mixture of oil and pulp is driven off in a pipe still and flash tower and the dried mixture is heated to 420° F. or thereabouts. As the temperature is raised to above 250° F. the clay in the mixture gradually darkens until at about 400° F. it appears completely black.

Simultaneously the color of the oil is lightened as may be seen from Table 3.

When 420° F. has been reached the contacted oil is

Table 3

Per cent Contact	Temperature °F.	Tag-Robinson Color of Oil
10	230	1¾
10	270	3¼
10	310	4½
10	350	4¾
10	390	5
10	420	5⅛

cooled, diluted with naphtha and filtered in filter presses.

Efficiency

Efficiency as pointed out in another publication[1] is measured by comparing the amount of clay required to bleach a given acid oil to the same color as that obtained by a 10 per cent weight contact with a standard clay.

"Palex" clay found in San Diego County, Calif., has been for many years considered the most efficient decolorizing clay for pulp-contact treatment, and therefore in many plants this clay has been and is being used as a standard. Where Palex was applied it was usually done for decolorizing and neutralizing acid oils in one step, and the quantities used ranged from 0.3 to 1.5 pounds of acid treated clay per gallon of oil, depending on the qualities of the acid as well as the color required for the finished product.

"Woodite" clay on the basis of weight of acid treated clay

[1]E. W. Zublin, Routine Testing of Contact Clays, The Oil and Gas Journal, April 23, 1931, Page 56.

per gallon of acid oil has on the average an efficiency of 110 per cent as against Palex.

A factor to be considered in efficiency calculations based on the raw clay is the loss due to acid treating. "Woodite" is as good in this respect as "Palex." The recovery figured on dry raw clay ranges from 79 to 81 per cent.

Another point to be considered is the oil retention of the filter cake obtained in the filtering operation following the contacting. Oil retention is known to be largely a function of surface exposure. A finely ground or a highly porous material will retain more liquid than a less finely ground or less porous material. This suggests that the condition of grinding plays an important part in the subsequent oil retention. It was found that for a given set of milling conditions the oil retention is greater if the clay is ground in a very dry state. Maintaining a moisture content of 12 to 15 per cent in raw Woodite during grinding overcomes excessive oil retention.

The matter of oil retention has been given attention by J. D. Haseman[2] who points out that it can be reduced a great deal in Fuller's earth by filling some of the pores mechanically. Efficiency is in no way impaired by such a process if it is carried out properly. Similarly it appears that grinding Woodite to finer than 200 mesh does not raise efficiency, but causes considerable trouble by retarding settling and washing of the treated clay lowering the rate of filtration, increasing the amount of fines that pass through the filter, and increasing oil retention.

Drying Woodite Pulp

As routine efficiency determinations of acid treated clay pulps are based on their solid content, it is necessary to have a reliable method of determining such solids. Off hand, it appears very simple to do this. However, check results cannot be obtained unless a rather strict procedure is maintained. This difficulty as will be explained is due to loss of water of hydration from silicic acid

[2]J. D. Haseman Journal Phy. Chem. Volume 23, Page 1514, October, 1929.

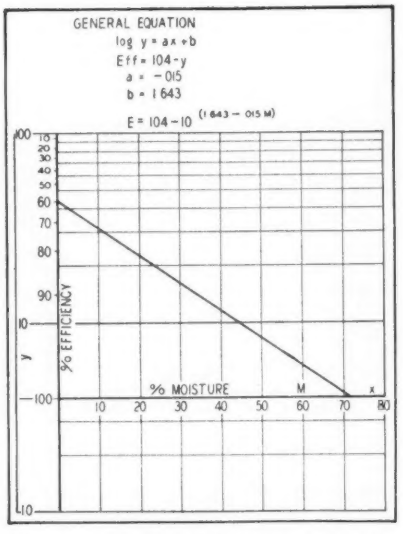


Fig. 4—Moisture-Efficiency relation of acid-treated Woodite

radicals set free by the acid treatment. Drying a two to 5-gram sample at 212 to 220°F. for 10 to 15 hours yields fairly consistent results and has been adopted as standard procedure.

A relation between specific gravity and solid content may be used where extreme accuracy is not required. By determining the specific gravity in a 50 cc. pycnometer and using the conversion chart shown in Fig. 3, solids can be determined sufficiently close for plant control. This procedure has the advantage of requiring very little time. Errors in this method are introduced by sand in the pulp and by high acidity of the water.

An investigation into the quantitative relations between moisture content and efficiency coupled with findings published in the literature reveal an extremely interesting insight the probable constitution of the treated Woodite clay.

When moisture as determined by drying at 212 to 220°F. is plotted versus efficiency on semi-log paper, most points lie on a straight line, the general formula of which is:

$$\text{Log } Y = AX + B$$

Where A and B are constants

$$X = M = \%\text{ moisture}$$

$$Y = 104 - E$$

Fig. 3 shows this line, and A & B as calculated therefrom are:

$$A = .015$$

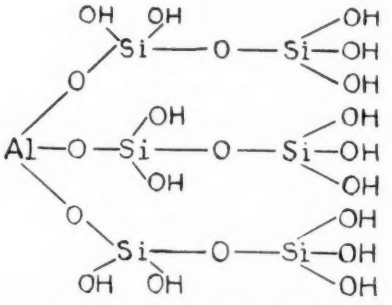
$$B = 1.643$$

The formula correlating moisture and efficiency is:

$$E = 104 - 10^{(1.643 - .015M)}$$

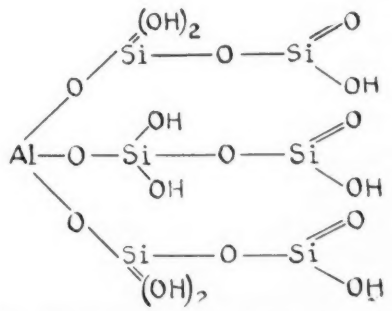
Haseman[2] in his publications on clays claims that the active ingredient in decolorization is free di-silicic acid which exerts its effect through available hydrogen atoms or ions. Acid treated Woodite after drying contains 5.5 per cent aluminum. This suggests that the active part of the clay is not the free di-silicic acid but an aluminum salt thereof. The mono-aluminum salt of the di-silicic acid has the following formula:

FORMULA 1



The aluminum content of this compound however is 5 per cent only. It has 15 free hydroxyl radicals per molecule, three groups of two and three groups of three. Upon drying it is likely that water of hydration is lost most easily where the largest number of the radicals is grouped around one silicon atom. Therefore, water is probably lost from the three groups of 3-OH radicals. Three molecules of water can thus be detached and the process of dehydration will result in the following compound;

FORMULA 2



The aluminum content of this partly dehydrated silicate is 5.5 per cent, the same which is actually found upon analysis. Of the 15 OH radicals, six were lost, or 40 per cent of the total number present.

Going back to the moisture efficiency we find that the line goes through the 60 per cent

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efficiency point for zero per cent moisture. As suggested by Haseman, efficiency is proportional to the available hydrogen atoms, and these in turn depend on the -OH radical. In other words, a 40 per cent loss of -OH radical should be reflected in a 40 per cent loss of efficiency, which is actually the case and which establishes a surprisingly good relationship.

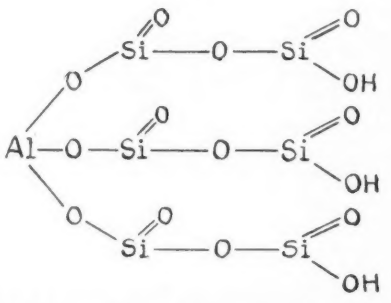
If water of hydration is so loosely attached that drying at 212°F. will remove part of it, it is likely that under the proper conditions the process of dehydration can be reversed. Consequently steaming was tried to revivify the clay. Applying steam of 100 pounds pressure to the clay for 15 minutes brings the efficiency of Woodite back to its original 100 per cent or close to it.

Instead of reintroducing the water previous to contacting, this rehydration of the clay can be carried out during the contacting process. By introducing steam under superatmospheric pressure while contacting, better efficiencies are obtained than by dry contacting. Steaming without pressure during contacting is of no avail and may even be harmful as it does not rehydrate the clay but causes dissociation of some of the acid sludge left in the oil.

Instead of first removing and then replacing part of the water of hydration, it was thought that it possibly could be fractionated from the physically admixed water. It is likely that water of hydration exerts a lower vapor pressure than water of admixture and that for this reason it should be possible to remove the latter without affecting the former. Drying tests were carried out in an atmosphere of slightly superheated steam at pressures ranging from zero to 20 pounds. Clays were dried in this manner to moisture contents below 20 per cent and efficiencies of very close to 100 per cent were obtained. Unfortunately such clays, when standing in the open for a few days begin to lose efficiency until they stand in line with the moisture according to the moisture efficiency curve Fig. 4. Storing the clay in vapor tight vessels preserves the efficiency for a month at least.

If drying is carried out under more severe conditions, that is, at higher temperatures the product of Formula 2 can be further dehydrated to the following compound:

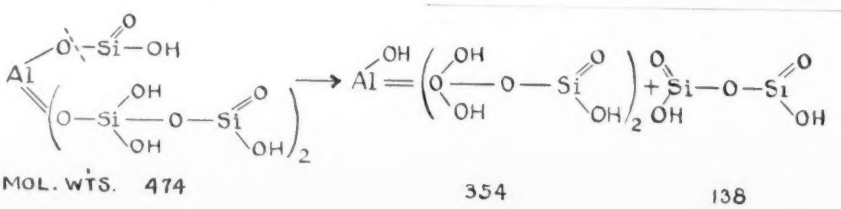
Formula 3



Of the original 15 -OH radicals only three or 20 per cent of the total remain. In other words, the lowest efficiency that can be expected upon drying is 20 per cent of the original. No such low result was ever obtained, 40 per cent being the lowest ever attained by drying at temperatures up to 350°F. This result is important from a practical point of view as it indicates that upon drying treated clay the chances for relatively low efficiency increase with the severity of the drying operation, and for very low moisture contents the efficiencies are likely to be lower than indicated by the moisture-efficiency curve, unless extreme care is exerted during the process of drying.

A very peculiar irregularity was noticed when drying small samples at 300° F. or thereabouts for a long period. The weight of the clay would reach a minimum and then increase. The increase was 3.6 per cent of the lowest weight. A possible explanation for this phenomenon is to assume the occurrence of a chemical change involving hydrolysis. Aluminum is a weak base, and the silicic acid having been weakened by the loss of water is possibly separated from the former under the influence of traces of sulfuric acid left in the clay from the preceding acid treatment. This reaction can be as follows:

Formula 4



As indicated by the molecular weights an increase in weight accompanies this reaction which amounts to 3.8 per cent of the lowest weight as compared with 3.6 per cent actually found. This is a fair check considering that the reaction may not go to completeness.

The mechanism by which decolorization takes place is believed by Haseman to be due to coagulation under the influence of hydrogen from the -OH radicals, while other authors assume loose combinations of the -OH radicals with the coloring matter. When the clay is heated with the acid oil, foaming continues up to 400°F., which temperature coincides closely with the completeness of the decolorizing reaction. Whether hydrogen is evolved together with water has not been definitely established. There is no doubt that heating the clay in the presence of acid oil involves a reaction entirely different from the simple drying reaction in which only moisture is lost. This view is supported by the fact that Woodite once contacted and restored by burning at 800 to 900°F. yields a clay that has efficiencies as high as 75 per cent of the original, while the same clay, freshly acid treated and dried at 300°F. may have an efficiency as low as 40 per cent. Furthermore, the dried clay can be revivified by steam to almost 100 per cent efficiency, while the once used and burned clay is only slightly improved by steaming.

Assuming on the other hand that the -OH radicals or the hydrogen evolved therefrom are responsible for the decolorization, one would have difficulty explaining the efficiency of the clay recovered by burning. At the high temperatures involved most of the water of hydration has been removed. Radicals capable of evolving hydrogen must be few and yet the efficiency of the recovered Woodite is as high as 75 per cent. It should also be pointed out that

after contacting is carried out with spent and freshly burned clay which has had no chance of picking up moisture from the air no foaming can be detected. This indicates absence of gas evolution, and yet the efficiency can be as high as 75 per cent. One is almost forced to the assumption that in the case of spent and burned clay, decolorization is not caused by free -OH radicals or by hydrogen therefrom and there is the possibility that the bleaching power of fresh and restored clays is due to different physical or mechanical phenomena.

Woodite for Treating Edible Oils:

Previous efforts to bleach edible oils with acid-activated clays have failed because traces of acid retained by the clay in spite of most vigorous washing causes the formation of free fatty acids. Such fatty acids are subject to rapid oxidation and they impart to the oil a rancid taste both when fresh and after oxidation. Addition of alkaline substances to the clay destroy its bleaching efficiency, due to neutralization of the -OH groups which according to all evidence are responsible for the bleaching action. Attempts to neutralize with ammonia and then remove the ammonia from the silicic acid by heating to high temperature have failed for various possible reasons. Finally, the addition of non-alkaline metal oxides or hydroxides, which are capable of neutralizing strong acids but will not combine, or will combine very slowly with silicic acid at room temperatures, was tried. Among the compounds tried were alumimum hydroxide, iron hydroxide, zinc oxide, brucite (magnesium oxide) and calcium oxide. The results were very gratifying. A summary is shown in Table 5. Cottonseed prime yellow oil was contacted according to the standard method prescribed by the Association of Cottonseed Oil Manufacturers.

Table 5

Effect of Addition of Oxides on Efficiency of Woodite on Edible Oils

Type of Clay	Color of Oil Louibond Red No.	Acid Number
1932 Standard	1.9	.018
Activated Woodite (10% Moisture)	.7	.456
" " neutralized with Ammonia	3.5	.024
" " 15% Brucite (a)	1.5	.189
" " 15% Brucite (b)	1.4	.028
" " 10% Zinc oxide (b)	1.5	.049
" " 10% CaO (a)	1.5	.126
" " 10% CaO (b)	4.5	.029
" " 10% "precipitate" (b)	1.5	.027

(a) = oxide added to dry clay

(b) = oxide added to clay pulp and the mixture dried subsequently.

In the above table it will be noted that the metal oxide was added to the clay in two different ways as marked (a) and (b). Calcium oxide, which shows alkaline reaction in presence of water, must be added to the clay, in the dried form, as it will otherwise neutralize the silicic acid and injure its bleaching properties.

Zinc iron, and aluminum oxides on the other hand must be added to the clay pulp if they are of any use at all because in the dry state they are not capable of combining with free sulfuric acid. They will not neutralize silicic acid, even when left with clay pulp for a long time previous to drying.

The "precipitate" was obtained from the acid wash water of the clay treatment by the addition of caustic soda. It consisted of a mixture of mostly aluminum and iron hydroxides which were added to the clay pulp without being dried first. Edible oils treated with activated clays containing "precipitate" after exposure to sunlight for several weeks acquire an almost water white color.

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National Safety Council Convention To Have 5 Petroleum Sessions

CLEVELAND, Aug. 29. AT FIVE special sessions the petroleum section of the National Safety Council will discuss the rapid progress made in safety work in the oil industry in recent years and lay plans for the future at the annual meeting at Washington, D. C., Oct. 3 to 7.

R. E. Donovan, Standard Oil Co. of California, chairman of the section, and H. N. Blakeslee, American Petroleum Institute, secretary, have been in charge of arranging the program.

Accident reports assembled by the American Petroleum Institute prove the petroleum industry has been making rapid progress in accident control during the past two years. Since 1929, 42 organizations whose employees worked a half billion man-hours have reduced their lost time injuries per 1,000,000 hours worked from 25.85 in 1929 to 13.03 in 1931, or more than 50 per cent. They likewise have reduced their days of absence from accidents per 1,000 hours worked from 2.40 in 1929 to 1.98 in 1931, or about 18 per cent. This is one of the best records among the 28 major industrial groups.

Increasing interest of the petroleum industry in accident prevention is proved by the fact that 89 separate units with an exposure of 568,000,000 man-hours reported their accident experience in 1931. Large organizations lead the industry in safety. As in previous years, producing, pipelines, and marine operating branches had the highest accident frequency and severity rates.

The petroleum section program will be introduced on Oct. 4, with a "Review of Activities" by General Chairman R. E. Donovan. Additional features are "Our Statistics and What They Show" by J. W. Myers, chairman, statistics committee, "Hazards in Modern Drilling and Their Correction," "Safe Gasoline Plant Operation" by C. H. Martin, Phillips Petroleum Co.; "Wildcatting and Safety Work" by R. B. Roaper, Humble Oil & Refining Co.

At the Oct. 5 morning session, J. S. Boylan, Continental Oil Co. will talk on "Special Hazards in Gusher Fields." E. R. Alden, Vacuum Oil Co. will discuss "Psychology and Accidents —Mental Ease During Depressions." Walter B. Murphy, the Atlantic Refining Co. will discuss "Safe Pressure Still Operation;" and there will be an address on "Preventing Accidents in Roustabout Gangs." There will also be election of section officers.

At the Oct. 6 morning session there will be addresses on "Keeping in Step with Progress in Safety Work;" "Effects of Competition on Morale of Employees;" "Safety Organizations in Sales Divisions," by C. W. Smith, Standard Oil Co. Indiana; "Opportunities in Accident Prevention," by D. L. Cross, Petroleum safety engineer Standard Accident Ins. Co.

At the Oct. 6 luncheon session H. N. Blakeslee, secretary will present data on the 1932 safety contest. An officer of the National Safety Council will award National Safety Council trophies and certificates. There will be an address on "National Phases of Accident Prevention Work."

The Oct. 6 afternoon program will include: "Accident Prevention Courses in Universities" by G. M. Kintz, U. S. Bureau of Mines; "Fire and Explosion Problems and Their Solution;" "Solving the Traffic Problem," by C. L. Hightower, Texas Pacific Coal & Oil Co.; "Solving the Asphyxiation Problem," by J. L. Risinger, Magnolia Petroleum Co.; and "A Twenty-Two Million Dollar Pipe Line Job," a motion picture.

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Curb of Panhandle Oil Wells Is Delayed

HOUSTON, Aug. 25.—A railroad commission order placing under proration the wells of the Danciger Oil & Refining Co., in Carson, Gray and Hutchinson counties, Texas Panhandle, is being held in abeyance pending a conference of Danciger attorneys with representatives of the railroad commission. The order was issued a week ago but its application later was postponed.

Danciger wells and offsets belonging to other companies had been produced above proration quantities pending court decisions on litigation brought by the Danciger interests more than a year ago. Recently Commissioner Ernest O. Thompson of the railroad commission, supported by other members of the state's conservation agency, ruled that the agreement previously enforced could not be held to prevent enforcement of rules to prevent physical waste.

AKRON, Aug. 26.—Resolutions mourning the death of Basil B. Murphy of the Barberton Oil Co., Barberton, O., were adopted at the Aug. 25 meeting of the Tri-County Petroleum club which met at the Congress Lake Country club, near Canton, O.

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MODERN REFINING METHODS

Lubricating Oil Manufacture

ARTICLE 1

By Arch L. Foster
N. P. N. Staff Writer

IN THE dim antiquity of the oil industry, the first lubricating oils were distilled from a pot still—the same still from which gasoline, kerosine, gas oil, and all other fractions of the charge were obtained. Batches of crude were pumped to these stills, which were connected with simple coil condensers by means of the old familiar "gooseneck" vapor line, and each fraction in turn was distilled off.

Separation of fractions was merely by means of a valve manifold to direct the "stream" to different rundown tanks. Fractionation as we know it was rudimentary if not non-existent, the condensate returned to the still being that occurring in the usually horizontal gooseneck. No intercontact between vapors and condensate was possible or even thought of, except the incidental contact between the surface of the stream of liquid in the bottom of the gooseneck and the vapor passing through.

Until petroleum, or "rock oil" came to be seriously considered as a source of lubricants, no distillation aids, such as steam, were employed. Fire was applied to the bottom of the still to obtain kerosine, or "coal oil substitute," the obnoxious gasoline or benzine being disposed of in ways best known to the individual refiner. Tradition has it that the first use for petroleum as a lubricant in this country at least was the application of the heavy still residue to the axles of wagons employed to haul crude to the still, and to carry "refined" products to local markets.

The first entry of petroleum lubricants into the markets encountered the inevitable competition of animal and vegetable oils, which hitherto had been the only sources of lubricants for every purpose. Certainly the petroleum oils of that time were sadly inferior to whale oil, castor bean oil, and other common lubricants. The effort to meet these products on common ground, combined with the increasing use of machinery requiring oils of widely varying viscosities, were the incentives which fostered the study of the manufacture of petroleum lubricants and their adaptation to a multitude of different purposes.

ONE of the first improvements in the distillation of lubricants was the introduction of steam into the shell or pot still, for the purpose of reducing temperature at which these heavy hydrocarbons could be distilled. In the distillation of any petroleum product, the amount of decomposition of any fraction during distillation is a function of the temperature, the vapor pressure of the hydrocarbons, the pressure on the liquid and vapor, and the time of exposure to the temperature. The higher the temperature and pressure, the lower the vapor pressure of the oil distilled, and the longer the exposure to the temperatures of distillation the greater will be the decomposition of hydrocarbons, with the consequent reduction of lubricating quality, and increase in refining losses.

In the pot and shell still, in any type of still in greater or less degree, local overheating occurs in the oil film adjacent to the metal of the still wall, whether it be a pipe wall or the bottom of the shell in contact with combustion gases on its outer side. One of the purposes of the introduction of steam was to create turbulence next to this wall, to carry away from the overheated still wall the oil in contact therewith, before overheating and decomposition occurred.

THE second purpose of the introduction of steam or other inert vapor is to lower the vapor pressure of the oil required for distillation. The law of partial pressures states in effect that in any mixture of liquids, the vapor pressure above the mixture is a function of the vapor pressures of the components, and that the vapor pressure of any component is the same as it would be if that component's vapor occupied the same space alone at the same temperature. In a system of two or more immiscible liquids, as for instance petroleum and water or water vapor, the total pressure above the liquids will be the sum of the vapor pressures of the immiscible components at the existing temperature.

Therefore, the total vapor pressure above a mass of petroleum oil and water, or of petroleum into which water vapor is introduced, will be the sum of the water (steam) vapor pressure and that of the petroleum at the existing temperature. Since distillation occurs only when the total vapor pressure above the liquid or liquids exceeds that of the atmosphere, or more specifically, when the total vapor pressure exceeds the

pressure on the liquid-vapor system, the introduction of a foreign vapor into a still lowers the partial pressure of the oil necessary to produce distillation.

The oil therefore may be distilled at a temperature below that at which it will distill in the presence of its own vapor alone. If this partial pressure is lowered sufficiently by introduction of a sufficient percentage of water vapor, the oil may be distilled at a temperature below its decomposition temperature, that is, without appreciable "cracking" of the fractions.

The lessening of the oil vapor pressure necessary for distillation is the main reason for the introduction of steam into stills and fractionating towers. A third advantage, corollary to the first two mentioned, is to hasten the speed of distillation, to increase the throughput of a still of any given size and installation cost.

Development of the modern distillation unit is based on the, in great measure, coincident development of the two main features of it—the rectifying tower and the pipe still. The fractionating tower's development preceded, in general, that of the still. The tower was first used, in rudimentary forms well known a decade or two ago, in connection with shell stills. The pipe still required the tower to make its development possible.

The first fractionating towers were open vertical cylinders, or a group of these in parallel or in series, usually uninsulated, in which the atmospheric condensation effected a rudimentary selective fractionation of the vapors to yield slightly more narrow cuts. As the advantages of fractionation of all petroleum cuts became better understood, further study of the problem was made by the technical and practical men in refining, in the attempt to increase the degree of rectification obtained.

Technologist, borrowing information from the alcohol and other industries in which the use of rectification had progressed far beyond that employed in oil refining, developed in turn the packed tower, the baffle tower and finally the design now in general vogue, the bubble-cap, or decked tower.

THIS is the first of a series of articles for the plant operator and refinery employe, dealing with the most modern developments in each special field of refining. Succeeding articles will take up the different phases of distillation, light oil treating, boiler plant operation, wax manufacture, refining of asphalt, road oils, chemical properties of petroleum, manufacture of specialties, and other major operations of a complete refinery.

The purpose of this article is to discuss briefly in one article the newest methods and equipment for lubricating oil manufacture. The processes mentioned represent the best practice in the modern refinery.

The first packed towers were filled with irregular shaped materials of every description—coiled chain, bricks, scrap metal, odds and ends of scrap from the refinery junk yard—which were piled in in more or less random fashion, the irregular shapes providing interstices for the passage of vapors. Condensation of heavier constituents of the vapor provided a relatively uncertain rate and degree of reflux. The condensate flowed downward over the packing material providing a variable degree of liquid-vapor contact.

THE primary purpose of reflux is to provide heat exchange between the heavier hydrocarbon vapors passing through any part of the tower, and the lighter hydrocarbon portion of the liquid flowing down the tower; the heat of condensation of the heavier components again vaporizes the condensed lighter hydrocarbons, providing selective rectification. Lighter fractions are continually carried upward as vapor, to be condensed at a higher level or to be carried over the top to condenser. The degree of segregation of components of corresponding boiling ranges is determined by intimacy of contact between vapor and liquid, that is, by the efficiency of fractionation.

One of the disadvantages of the packed tower as employed before the advent of later types, was the lack of uniformity in the contact between vapor and liquid. Condensation occurred more completely near the walls of the tower, the condensate flowing down the wall to the bottom, with only incidental contact with rising vapors. Channelling occurred all through the tower, the bulk of the vapors taking the line of least resistance, condensate forming on, and flowing down the more closely packed portions, with resultant poor efficiency.

The use of especially prepared packing, such as Raschig and other types of refractory "rings," improved this condition considerably, but could not eliminate the difficulty. These rings increased the surface wetted by the downflowing condensate, in some measure reduced channelling, and insured better contact between vapor and liquid.

Spiral surfaces built into the packing produced a degree of turbulence in both liquid and vapor, increasing the frequency and intimacy of contact. Regularity of packing aided in reducing channelling, and lessened the back pressure in the still.

Baffle and bubble towers were designed to increase the degree and uniformity of liquid-vapor contact. Many forms of baffles were employed; the first were sloped downward, the stream of reflux flowing over the edge at or near the tower center, the vapors passing through the overflowing liquid. Other forms were perforated, or sloped upward to maintain a certain quantity of liquid on the baffle, absorbing heat from the vapors. All were "staggered" alternately, forcing both vapor and liquid to follow a zigzag course through the tower.

The most improved form of tower at present is the bubble-cap type, in general use throughout the industry. A horizontal deck or plate extends completely across the tower cylinder, and is fitted with a series of holes, in which are inserted short sections of tube. Over each of these is placed a cup or cap of larger diameter covering the tube. On the plate is maintained a definite layer of reflux liquid

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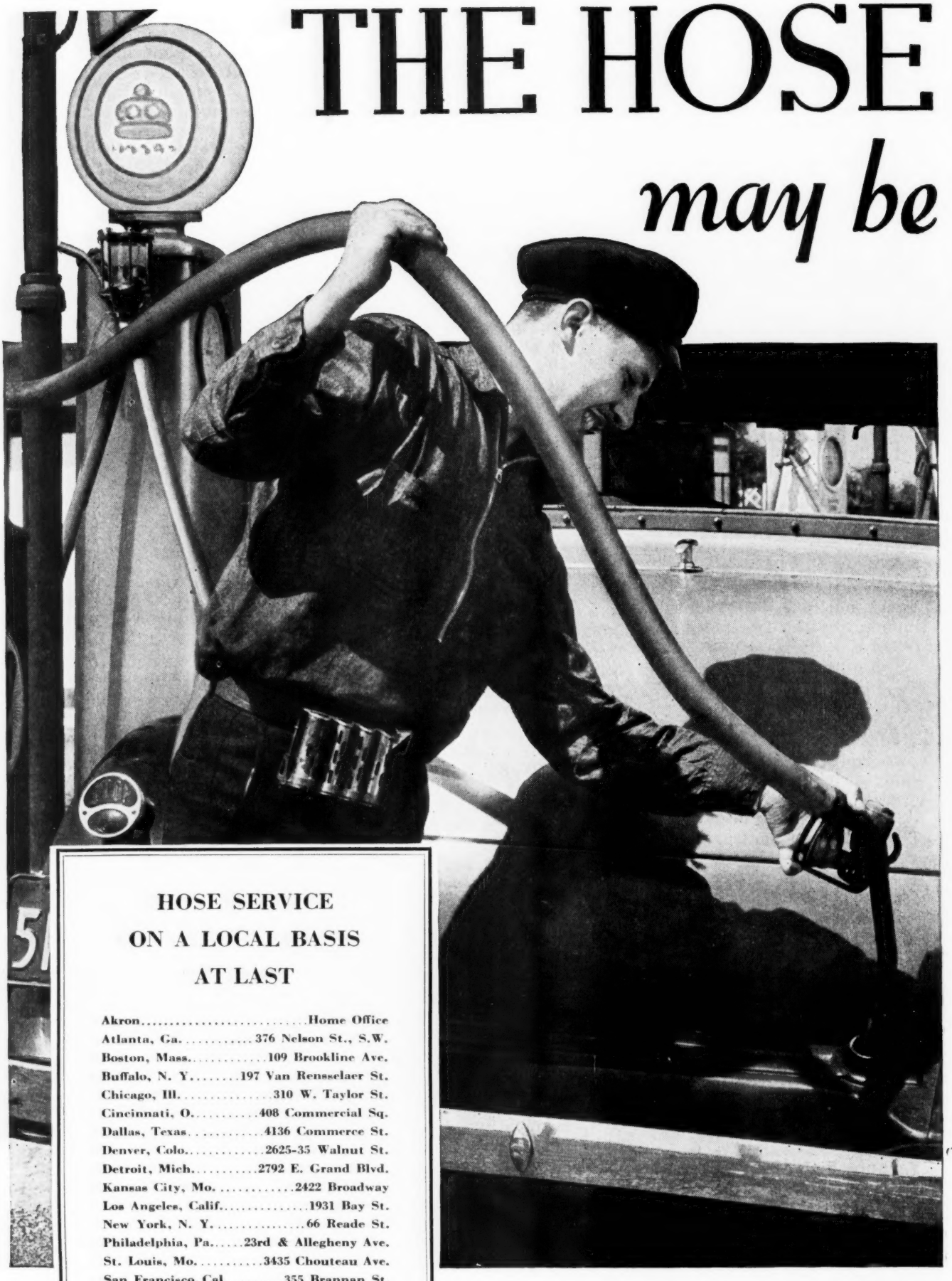

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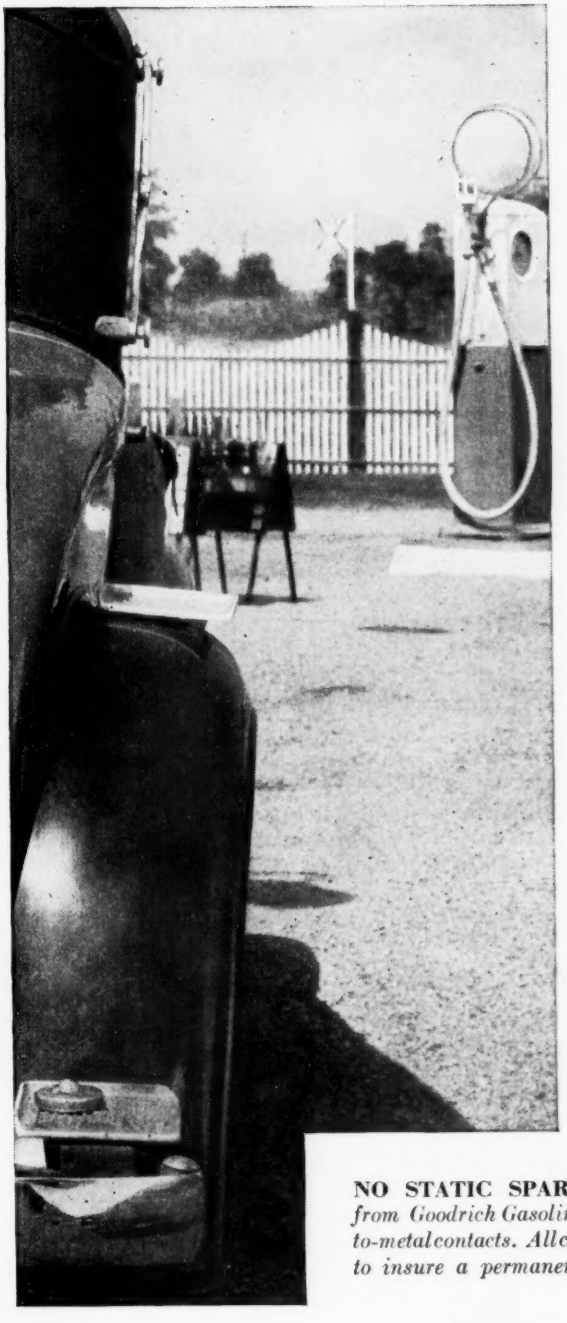

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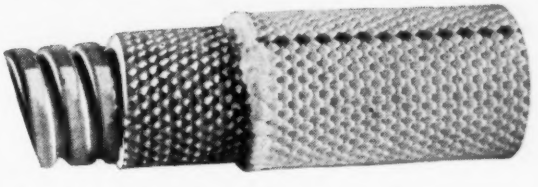

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at a predetermined level by overflow weirs which carry the reflux to the plate below. Serrated or slotted edges on the cap breaks up the vapor stream into bubbles. The liquid level is maintained above the slots so that on each plate vapors must pass through a liquid layer, condensing heavier vapors, the heat of condensation of which vaporizes the lighter portions of the plate liquid.

(To be Continued)

Filled In Bulk Plant Site Forms Natural Dike For Tanks

FLINT, Mich. FOR the marketer interested in a compact, small bulk plant receiving gasoline and kerosine in tank cars, and lubricating oils and greases in containers, the James Austin Oil Co. plant in Flint, Mich., may well be considered a model.

The plant now has storage capacity for 60,000 gallons of refined oils. The warehouse has space for two freight cars of lubricating oils. It was designed to accommodate the business of a new company, and the property provides space for expansion as required.

This James Austin Oil Co., began business early in the summer of 1931. The corporate structure is separate, but the James Austin is the same as the James Austin Oil Co. at Wayne, Mich. Both companies distribute Shell products. E. W. Manns, a former Shell salesman in Michigan, is general manager of the company in Flint.

The light oil storage consists of four 15,000 gallon tanks. These are set in a natural tank yard. The bulk plant, on South Saginaw street, was built on land lower than the street level. After the tanks were located the property was filled in, leaving the natural depression to serve as the dike.

There is a storage tank for each of these four products: Ethyl, regular, and third grade gasolines, and kerosine. The tanks are set horizontal. They are built on steel supports. The supports are protected by concrete, as required by Michigan laws.

For unloading tank cars there are two pumps in a brick building on the edge of the tank yard nearest the railroad siding. The motor is in a room separated from the pump room by a brick wall. Each tank has its own line to the pump house.

Products are loaded into tank trucks by gravity, at the loading dock on the far side of the tank yard. Each line has a quick shut-off valve at the end, and a hand valve at the tank. Pumps are manifolded, but the tanks are not inter-connected.

In filling in the property a cinder drive was built around the tank yard so trucks could be filled, then driven ahead and around the yard.

Lubricating oils are stored in a warehouse. The capacity is about two freight cars. This is a sheet iron building, on a wood frame, 30 feet wide by 50 feet long.

The space along one side of the interior of the building is at ground level for storing trucks at night, and loading in the day time. The opposite side is built at the level of a truck body for rolling drums in loading.

For filling small containers drums are set on side, with a faucet at the bung.

Greases and package goods are stored in the basement of the company's service station at the street side of the bulk plant lot. The basement has a rear entrance for truck loading.

Russian Conference Denied

NEW YORK, Aug. 27.—Word has been received here from Charles E. Arnott, president of Socony-Vacuum Corp., that no further conference with Russian oil interests has been arranged. Russia participated in the oil conference in New York in May and early June. Mr. Arnott was chairman of that conference and the one held recently in Paris with representatives of the Roumanian oil industry.

Crude Stocks Two Million Lower

NEW YORK—A decline of 2,150,000 barrels in pipeline and tank farm net domestic stocks of crude east of the Rockies was reported for July, according to the American Petroleum Institute. This follows a decline of 3,005,000 barrels in June.

Bulk plant of the James Austin Oil Co., Flint, Mich. The warehouse on the right has storage space for two trucks and for two car loads of barreled oil. Each storage tank holds 15,000 gallons

B-r-r-r-r. In a few months highways in the northern part of the country will be covered with snow, and marketers will have profits in the cash register from selling merchandise and services to conditioning automobiles for this kind of weather

Winter Conditioning Sales Promise Extra Profits for Marketers

By E. L. Barringer
N. P. N. Staff Writer

CLEVELAND

THE weather is fine now—great days for golf, swimming, and vacation trips—but autumn is only a few weeks away, and then comes winter.

To the marketer this means the approach of the season for consumer buying of merchandise and services to carry the automobile through the winter months, and in the meantime the shaping of a service station merchandising program to profit from this buying.

How much money will be spent this year on automobile "winter conditioning" will be influenced by many factors. Some motorists will be reluctant to spend as freely as in other years, but there will be more older automobiles in service, and the older the car the more attention it requires. And no matter how reluctant a motorist may be in buying, certain purchases must be made if the automobile is to be driven during winter months.

As a minimum estimate the average motorist will spend at least $2.50 for anti-freeze solution and a change of transmission and differential lubricants. A severe winter, or the use of higher priced anti-freeze solutions, will easily increase this minimum materially. In addition, there are other purchases, for better winter driving conditions and to protect the auto against weather, to be made by customers willing to go beyond the limits of bare necessities.

In approaching the "winter conditioning" market the marketer has two points to consider. These are:

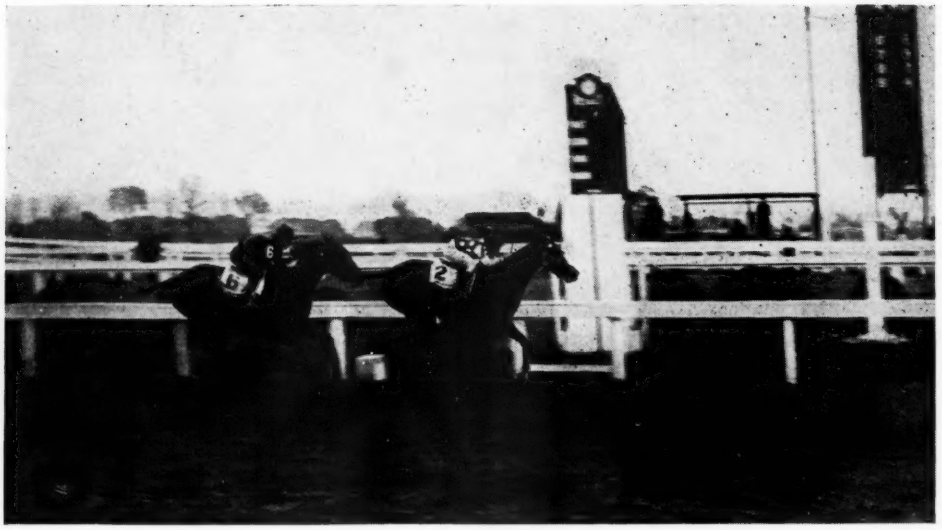
1. What merchandise and services, applicable to winter driving, are offered at my stations, and what items could be added?

2. Now that I have these given lines of merchandise and service how can I sell them to my customers?

FACILITIES at the service station, in a general consideration of what merchandise and services can be applied to "winter conditioning," can be listed as necessities and as near necessities. This division is made with full recognition of economic conditions influencing the customer's inclination to buy.

First on a list of necessities would be some form of anti-

THE WINNER —

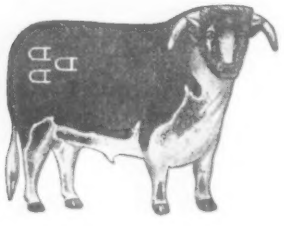


Underwood & Underwood

THREE "D"

THREE "D"
Anti-Knock

Initial	85 to 100
20% under	170
50% under	255
90% under	360
End point under	400
Recovery, Min.	96%
Doctor	O.K.
Corrosion, Negative	
Color as desired	



The same qualities that send the winner under the wire first—will keep your gasoline profits "Out In Front". When you put your money on THREE "D"—you pick the winner.

Quick Starting — High Anti-Knock — Smooth Running — Speed and Endurance — all can be had in Waggoner THREE "D" Gasolines. You will be surprised how rapidly your customers will recognize these winning qualities.

Write, wire or 'phone and we will send you a ticket on the winner.

WAGGONER REFINING COMPANY, INC.

Electra, Texas

freeze solution for the radiator. Every automobile, excepting air-cooled models, to be driven consistently over the winter in territories where the temperature frequently drops below 32 degrees must use some type of anti-freeze solution. There is no escape from this purchase, unless the car owner plans to drain the radiator during severe weather, and then he runs the risk of a cracked water jacket or ruptured radiator cores in case of a sudden drop in temperature.

Allied with the need for anti-freeze solution is the servicing of the radiator. Repairs of leaky cores and hose connections are especially necessary when higher priced anti-freeze solutions are used, and a thorough servicing of the cooling system is excellent insurance against the loss of any anti-freeze.

PRACTICALLY every service station stocking accessory items, has merchandise on sale for servicing the radiator. Major repair work has not been undertaken by stations, but minor servicing can be handled in a comparatively short time for putting the radiator in condition for anti-freeze solutions. This work consists of flushing with a radiator cleaner, inspecting for leaks and adding radiator cement to seal small openings, and replacing worn hose connections.

A further service is protection of the cooling system against rust. After the radiator is thoroughly cleaned, rust preventing material is added. A thin coating adheres to the metal, protecting the metal against rust from water. Anti-freeze solutions do not harm this protective coating.

The change to winter grade lubricants for transmission and differential, and now free-wheeling units, is generally considered a necessity. Oil companies have stressed the desirability of such changes for the winter, as well as the summer season in their advertising, and most station salesmen will solicit such sales at the change of seasons.

While this winter conditioning service will be considered a necessity by most motorists the fact should not be overlooked that it will be listed as a near necessity or a luxury by others. Economic pressure is the cause. Station managers report that some motorists last spring did not have their transmission and differential flushed and summer grade lubricant added, and that there may be some attempts to skip a change in grades this winter. The penalty of hard shifting, worn gears, and eventual repair bills seems to be less severe to this class of customers than the cost of the seasonal change in lubricants.

The motorist who appreciates the results of care, regardless of the age of the auto, will be in the market for these lubricants, and is a prospect also for other lubrication service. Since the transmission and differential, and now free wheeling units, are serviced at the first show of cold weather the customer is likely to change to winter grade motor oil at the same time.

In connection with this change to winter grade motor oil there is an opportunity to sell a crankcase flushing job, and a new oil filter cartridge. Such service and merchandise are salable throughout the year, but especially so when the customer is having the entire lubrication system serviced.

Chassis lubrication can be pushed, along with transmission and differential changes, the flushing of the crankcase, and the change to winter grade motor oil. Lubrication points requiring infrequent servicing such as wheel bearings, clutch bearings, distributors and so on, should not be overlooked.

ALONG with these requirements for winter conditioning that have been considered standard for years, there is a list of merchandise that is applicable to winter driving. Better driving conditions and protection of the auto will result from the use of this merchandise.

On the list, for protection of the auto, are polishes for body and metal parts, top dressing, and touch up enamel. If the

WHAT CAN I SELL?

NATIONAL PETROLEUM NEWS suggests the following list of merchandise applicable for selling in the winter conditioning market. Equipment and merchandise stocks will dictate how much a marketer has to offer, and severity of winter weather conditions will influence consumer buying, but the following list is offered as a general outline of services.

Lubrication

Change transmission, differential and free-wheeling units.
Flush crankcase, refill with winter grade motor oil.
Complete chassis lubrication.
Shock absorber adjustment, refilling.
Points requiring infrequent attention, such as wheel bearings, clutch bearings, distributors, and so on.

Cooling System

Flush radiator with a cleaner, and inspect for leaks.
Sealing minor leaks with radiator cement.
Replace worn hose connections.
Protect system with rust preventive.
Add anti-freeze solution.

Body Protection

Polish and wax.
Top dressing.
Touch-up enamel.
Metal polish.
Paint for under fenders.
Polishing cloth.
Sponge, chamois, spoke brush.

Ignition

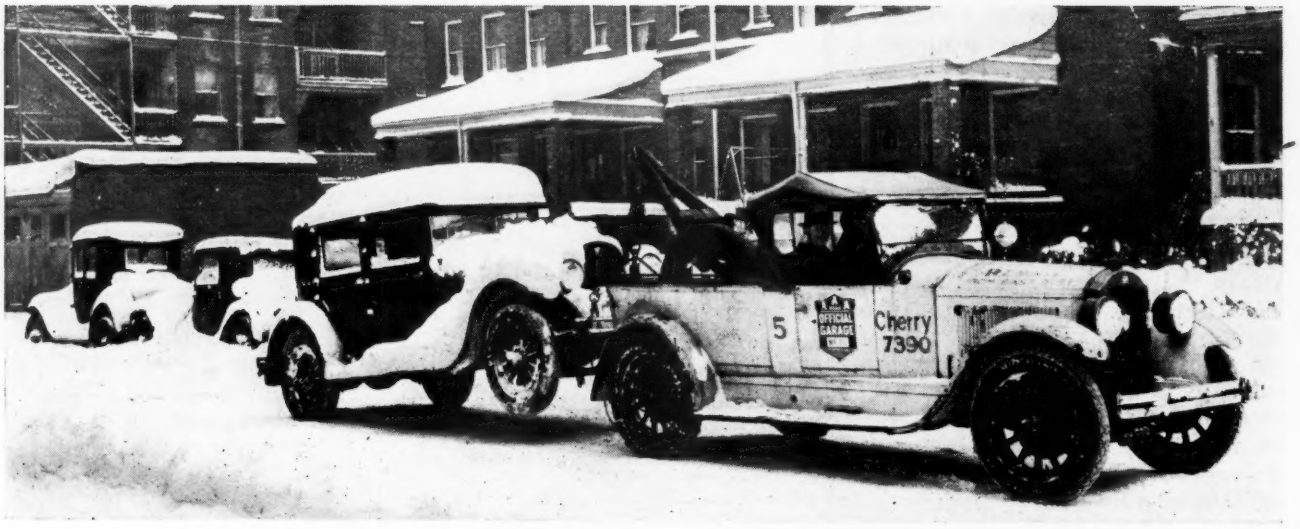
Set of new spark plugs.
Inspect battery and terminals.
Check all cables and ignition wires.

Tires

New tires, for safety in good treads.
Tire chains.
Emergency repair links.

Windshield

New wiper blade.
Defroster.



Proper servicing of the automobile before winter sets in will save a towing charge like this

car owner washes the car he may be a prospect for chamois, spoke brush and sponge. Paint applied to the under part of the fenders is becoming increasingly important. Cities keep streets open in winter by using salt, and the salty ice water under the car eats into the unprotected metal. While this list of merchandise is not necessary to winter operation of the auto, yet a thorough cleaning of the car and top, and touching up bare spots, will protect the finish and be good insurance in the long run.

Spark plugs, the battery, and wiring also merit servicing in anticipation of the heavy duties imposed by cold weather. Cold motors and a greater use of lights drain the battery. Corroded wiring shows up when the temperature drops. Spark plugs can be pushed for their value in better operation of the motor under severe conditions.

HEAVY tire buying in June to escape the federal tax would seem to have taken the edge off this market, but station managers report that many worn tires are still in service. The value in the safety of good treads, against the possibility of a few extra miles from the worn tires, when highways are icy may turn in tire sales in a winter conditioning sales campaign.

Some service stations have facilities for refilling and setting shock absorbers, and this service can be pushed as adjustments are necessary to meet changes in temperatures.

In the northern part of the country electric windshield defrosters have become almost a necessity for winter driving. The defroster operated on electricity from the battery prevents snow or rain from freezing on the windshield in front of the driver.

TIRE chains, and links for emergency repairing on the road, are other lines of merchandise salable for winter conditioning. In the northern states chains are practically standard equipment for winter driving, but in sections where winter is less severe the purchase of chains usually is deferred until actually needed, unless required by muddy, unimproved roads. Demand in these states varies according to weather conditions but a display of chains during a winter conditioning campaign would advertise that they can be purchased at the service station and would be preliminary sales work against the actual purchase.

The merchandise and services listed above are given as a broad outline of the possibilities of selling in the winter conditioning market. Facilities of the individual company now, or what could be added during the fall, will dictate how strenuous a campaign can be conducted. Geography also plays its part, as stations along the Gulf coast, for example, are operating under mild winter conditions compared to those in Minnesota or the Dakotas.

After a marketer has checked over the facilities at his stations, and determined what can be offered in this market, comes the planning of the actual sales campaign. Considerable planning and preliminary work is necessary for a successful winter conditioning campaign, and winter is not far distant now. Already station salesmen for one company are laying the ground work for future sales. They are reminding their regular lubrication and tire customers of the winter needs of the auto and asking them to keep their stations in mind when they are ready to buy. That's going after profits on business that will not materialize for three months.

WHAT week, or weeks, are best suited for putting on a winter conditioning campaign depends on the marketer's territory. The best time is just before the first cold wave, in order to handle customers who anticipate such servicing, and to have them out of the way before the rush on the first real cold day.

If the marketer has no record of his own, he could obtain data from the nearest weather bureau station and from reports of previous years determine the approximate time winter sets in. Banners, signs, merchandise, and sales presentations can be prepared, and stocked, ahead of time so the stations

could get into action in case there is an early cold wave.

Prior to the actual sales campaign advertising in newspapers, over the radio, billboards, and direct mail can be pointed towards the winter conditioning market. Difficulties in shifting gears and in starting motors on snappy autumn mornings also will be good advertising for oil companies.

Preliminary advertising should get in full swing several weeks in advance of the sales campaign. One oil company, that has been successful in advertising times its radio, newspaper advertising, and literature handed out at the station on winter conditioning, starts about two weeks in advance of heavy buying in this market.

If weather conditions for a certain territory indicate that winter usually sets in during the last week in November, for example, a campaign might be timed for the third week of the month, and preliminary advertising started about the first of November. Enclosures with bills and letters to customers and prospects mailed during October, calling attention to the needs of winter conditioning in the near future, would be good advertising.

Oil companies generally stress the need for transmission and differential lubricants, winter grade motor oil, also antifreeze solutions, in preliminary advertising and sales presentations at the gasoline pump. The element of fear is dominant, fear of stripped gears, hard shifting, and frozen radiators.

EFFECTIVE selling can be done at the station during the campaign. In addition to banners, signs, and displays of merchandise there are several novelties that have been used successfully by oil companies.

One of these is to have sample bottles of winter grade oil on display in front of the station, on a cake of ice. Incidentally, the dealer for mechanical refrigerators might be pleased to have his product used for an oil cold test at the station.

Another station merchandising idea, used by a marketer in Detroit several years ago, was an adjustment of the carburetor for winter grade gasoline. As automobile factories were closed during this season, in preparation for the next year's models, competent mechanics were available, and glad to get extra work. The marketer spotted these mechanics at his stations, and when a customer filled the tank with winter grade gasoline he could have his carburetor set for that grade of motor fuel.

Undoubtedly there are plenty of garage mechanics at liberty a few days of the week now, and willing to do such work at the service station. Besides being an advertising aid for winter conditioning such a feature might attract new customers.

Another feature of the merchandising campaign is a suggestion, made to NATIONAL PETROLEUM NEWS, that marketers in a city put on a concerted winter conditioning drive. Winter conditioning is a local affair, and all the marketers in a city or town might select a given week, each doing his own preliminary advertising and sales work, for pushing this service. And the pressure of all marketers pointing to one week might have the effect of increasing the sum total expended for winter conditioning.

Severe Lubrication Requirements of Modern Motor Cars

By L. C. Eldridge*

THE many refinements of the modern automobile have created a demand for lubricants capable of withstanding extreme pressures, sustained high temperature, low carbon forming characteristics and of exceptional stability.

There are three principal classifications of automotive lubrication: (1) The engine and its accessories; (2) the transmission and rear axle gears; (3) the car chassis.

Engine and Its Accessories

The lubrication of the modern automotive engine with its purolator, air cooler, aerated crankcase and full force oiling system has become quite well standardized. The problem of producing a satisfactory automotive engine oil has received years of research attention by the refiners with the result that there are presently many motor oils on the market of excellent quality. It is true that these various engine oils manufactured from the different types of crude obtained from different sources have slightly varying characteristics. It has, however, been my experience that the lubricating qualities of the various oils are very comparable regardless of the crude from which they are manufactured, providing the proper methods of refining and treating have been resorted to.

In connection with engine lubrication it is, however, my opinion that the motor car operator would be assured much longer and more economical performance from his automobile engine if he considered the purolators, oil coolers, etc., as assisting to maintain more perfect lubrication, rather than reasons making it unnecessary to change the crankcase oil at periods ranging from 1500 to 2000 miles of operation. The older practice of more frequent changing, plus these improvements, will result in longer life and more economical performance.

These devices put nothing back into the product; they simply filter out solid materials and help to control the temperature of the oil. In other words, the true function of these devices should be considered as aids to more perfect lubrication rather than an expedient by which oil consumption may be reduced. Why try to economize on the cost that constitutes the smallest item of motoring expense

*Shell Petroleum Corp., St. Louis.

and is so vital to the life and performance of the engine?

Automobile Transmissions

The lubrication of the modern automobile transmission with its small compactly nested gears of the selective type presents of itself no special lubrication problems that cannot be met by the use of a good clean well-refined transmission oil of proper fluidity. However, when the car manufacturer incorporated within the transmission case the free wheeling unit there was created a rather perplexing problem in lubrication. This problem arose, not due to the requirements of the gear set itself, but due to the very different lubricating requirements of the free wheeling unit as compared to the gears.

There are two principal types of the free wheeling unit. (1) the over-running clutch or cam and roller type, and (2) the expanding spring or the L. G. S. type.

The latter device is not particularly sensitive to the type of lubricant used. The cam and roller type, however, is quite dependent on the viscosity of the lubricant for proper operation. If an oil too heavy in body is used the locking rolls cannot perform their function properly and the device will permit slipping. Further, if the lubricant is too light in body there is a possibility of scuffing taking place on the surface of the rollers and the cams, as the pressure involved at these points is very extreme.

HOWEVER, the necessity of providing a lubricant that will be correct for the gears with sufficient body to cushion out noise and insure quiet operation and also be correct for the free wheeling unit under all operating temperature conditions has given rise to the demand for the so-called special free wheeling lubricant, with which we are all quite familiar.

Automotive Rear Axle and Differential Gears

The development of the automotive rear axle has brought about difficult problems in lubrication. The reduction in the size of the conventional spiral bevel gears used in rear axle construction together with the increased use of the hypoid and worm gear in passenger car construction require lubricants that will prevent scuffing under very extreme pressures. Experimentors along this line have tentatively estimated that to be satisfactory, the rear axle lubricant must be capable of withstanding maximum unit pressures from 20,000 to 30,000 pounds per square inch.

THE accompanying article by Mr. Eldridge will give the distributor of lubricating oils a comprehensive picture of the problem of lubricating the modern automobile and how the problem is being met by the refiner in his research work into extreme pressure, free wheeling and other specialized lubricants. Ideal qualities of an extreme pressure lubricant are given. This article was presented in somewhat more extended form as a paper before the annual convention of the Western Petroleum Refiners Association several months ago.

As the load carrying capacity, due to film strength of the average medium or heavy bodied mineral transmission oil, is not in excess of 5000 to 10,000 pounds per square inch, it has been necessary to turn to the development of the so-called extreme pressure lubricant.

We are all familiar with the first attempt in solving the problems of satisfactory hypoid gear lubrication by the use of lead soap greases, which were not entirely successful, (1) because of the instability of these products, and (2) experiment has proven that lead soap greases when manufactured with oils free of sulfur fail to have adequate load carrying capacity. In other words, it has been quite well established that any success met with by the lead soap greases was perhaps mostly due to the sulfur content in the oil.

In theory, the development of the extreme pressure lubricant is based upon the admixture of an ingredient that will react chemically with the contacting surfaces. This chemical action is set up by the rise in temperature due to solid friction when the pressure per unit area becomes sufficiently excessive to break through the normal lubricating film of the oil. When such chemical action takes place in all probability there is formed on the contacting metal surfaces a thin film of metallic compound which reduces the coefficient of friction and prevents scoring.

EXPERIMENT has shown that there are several chemical compounds that when combined with the oil will cause this action. Most of them, however, will not prove satisfactory in service because of the excessive corrosive action which takes place at normal operating temperatures, and are so violent that ball and roller bearings are damaged.

The ideal extreme pressure lubricant should adequately fulfill the following requirements in order to function successfully as a transmission and differential gear lubricant:

(1) The extreme pressure ingredient should be combined with the oil with such chemical stability that it will not cause corrosion under any conditions except those occasioned by unit pressure above the film carrying capacity of the oil itself.

(2) The oil should possess the maximum lubricating film strength so that the extreme pressure constituent may remain chemically inert the greatest possible percentage of operating time.

(3) In order that the lubricant may be satisfactory to meet the requirements of the free wheeling unit and the transmission gears it should have a comparatively flat temperature viscosity curve.

(4) The stability of the lubricant must be such that it can be stored indefinitely without deterioration in any degree.

(5) The cost must not be excessive.

Several products have been produced which approach these requirements but the development of the ideal extreme pressure lu-

bricant still requires much research and experiment. In view of the progress already made, however, we are quite sure that this problem will be satisfactorily solved within the very near future. With such a lubricant it will be possible to meet all automotive gear lubrication requirements and escape the necessity of the many different types that it is now necessary to store and service.

Car Chassis Lubrication

The lubrication of modern car chassis also presents its special problems, especially if we are to meet the recommendations of the manufacturers. This problem in car chassis lubrication, however, is principally one of adopting some form of practical instruction to our service station personnel that will direct them in the use of the right type of lubricant in the various parts, consistent with the variations in design resorted to by the automotive manufacturer.

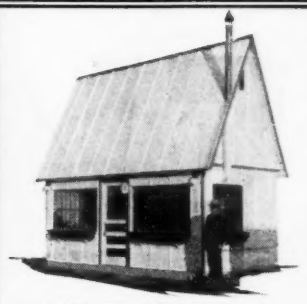
Pipeline Map Completed By Geological Survey

CLEVELAND, Aug. 27.—A new map of the oil and gas fields of the United States has just been published by the Geological Survey, department of Interior, and may be obtained from that office, Washington, D. C., for $1.00.

This map measures 48 by 77 inches overall, is about 40 miles to the inch scale, and shows the oil fields, oil pipelines, and refining centers in green. The gas fields and gas pipelines are in red.

This map shows also the recently built gasoline pipelines, from Texas to St. Louis, from Oklahoma to Chicago, Marcus Hook to Cleveland and Syracuse, N. Y., and other lines recently constructed, and the Tuscarora line from seaboard to western Pennsylvania, an old crude line in which direction of flow was reversed.

About 1500 students of Commercial high school, New Orleans, visited the Norco refinery of the Shell Petroleum Corp. recently.



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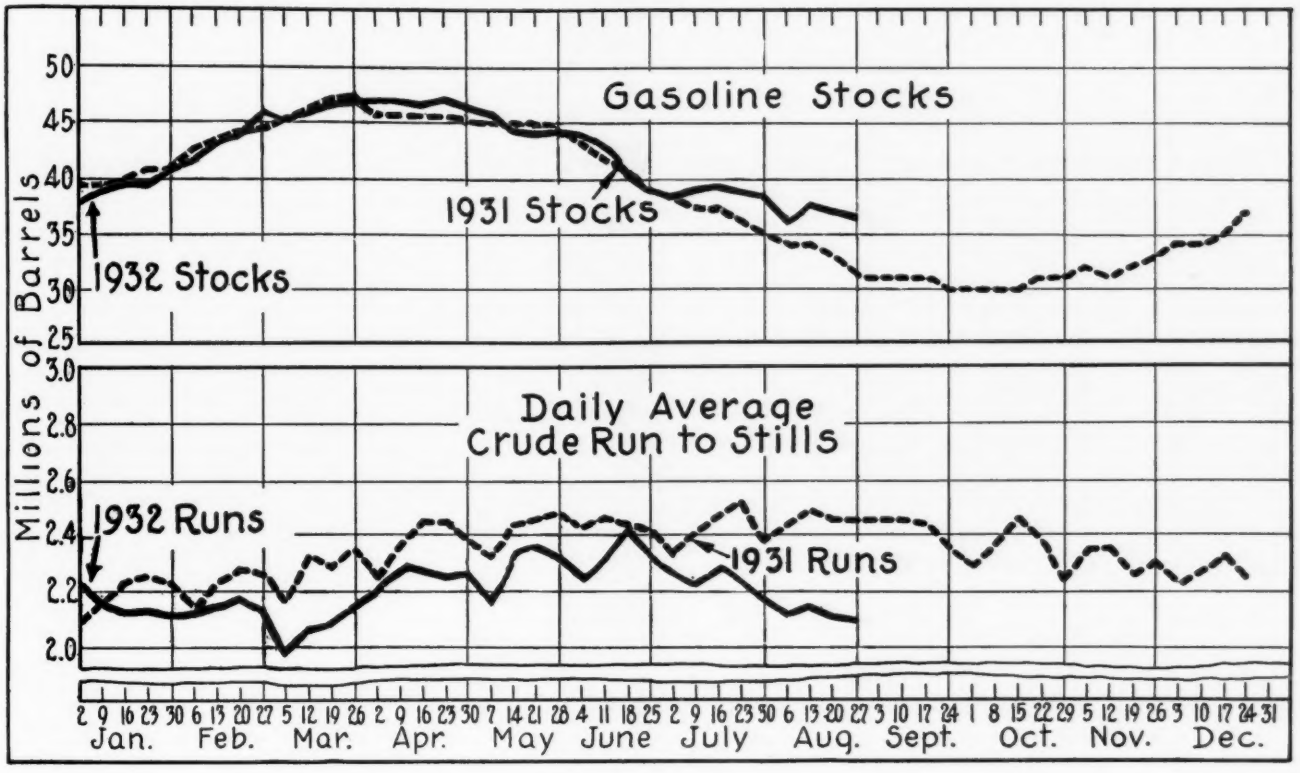
U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.



Bulk Motor Fuel Stocks Reduced 1,130,000 Barrels

By Telegraph

NEW YORK, Aug. 30

BULK stocks of motor fuel were reduced 1,130,000 barrels in the week ended Aug. 27 according to reports gathered by the American Petroleum Institute. In the previous week stocks were cut 1,119,000 barrels. Total stocks in the hands of reporting companies on Aug. 27 were 56,844,000 barrels.

Gasoline stocks at refineries were reduced 387,000 barrels to 36,664,000 barrels when every group except Texas and Louisiana-Arkansas reported withdrawals from storage.

Gasoline stocks at bulk terminals east of California were reduced 422,000 barrels to 13,977,000 barrels. The volume of gasoline in water-borne transit to these stations was 176,000 barrels lower, totaling 1,123,000 barrels. Other stocks of motor fuel and blending material were estimated at 5,080,000 barrels Aug. 27, a drop of 145,000 barrels.

Crude runs to stills were reduced 24,200 barrels daily average during the week to 2,104,100 barrels per day. This is the lowest level refinery operations have reached since early in March. Refiners utilized 57.5 per cent of their rated capacity as compared with 58.1 per cent in the previous week.

Gulf Texas refiners increased their crude runs 16,100 barrels daily average and increased their gasoline stocks 212,000 barrels.

Current Refinery Operations

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Gasoline		Gas & Fuel Oil		% Cracked of Total Capacity Reporting	Gasoline Production Daily Av. Production (Barrels) Week Ended	
		Aug. 27	Aug. 20	Aug. 27	Aug. 20	Aug. 27	Aug. 20	Aug. 27	Aug. 20	Aug. 27	Aug. 27	Aug. 20
East Coast	100.0	443,900	472,900	70.0	74.6	6,153	6,232	9,043	8,507	94.1	94,700	91,700
Appalachian	91.8	89,600	86,600	65.2	63.0	1,329	1,417	1,011	1,014	96.1	25,300	27,000
Ind., Ill., Ky.	98.9	227,000	284,400	64.2	65.9	4,722	4,972	4,358	4,349	95.5	92,600	80,700
Okla., Kans., Mo.	89.6	230,900	223,100	53.1	51.3	3,209	3,242	3,483	3,366	92.3	49,900	50,600
Inland Texas	76.5	95,100	101,900	40.7	43.6	1,191	1,172	2,120	2,316	90.2	18,200	19,400
Texas Gulf	99.8	362,400	346,300	68.2	65.2	4,295	4,083	9,767	9,018	98.6	101,400	78,700
La. Gulf	100.0	96,300	98,100	65.3	66.5	1,471	1,405	4,242	4,626	100.0	22,000	24,100
No. La., Ark.	97.0	42,400	41,600	51.1	50.1	97	96	627	640	100.0	9,400	8,700
Rocky Mt.	89.4	45,400	49,100	31.6	34.1	1,747	1,787	537	576	98.5	12,100	14,600
California	96.7	421,100	424,300	47.6	48.0	12,450	12,645	99,737	99,688	100.0	45,000	53,000
Total	95.1	2,104,100	2,128,300	57.5	58.1	36,664	37,051	134,925	134,100	95.6	470,600	448,500

Compilation Of Mid-Continent Refinery Operations

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Mid-Continent Refinery Operations, Week Ended Aug. 26 (By Teletype)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended Aug. 26
Plants Operating.....	10	23	23	10	10	76
Da. Av. Cap. Bbls....	94,000	162,500	107,400	71,500	60,700	496,100
Da. Cracking Capacity	53,200	64,600	23,100	26,250	31,700	198,850
Da. Av. Crude Runs..	58,847 + 3.0	72,371 + 0.4	49,098 + 1.8	10,831 + 15.1	35,439 + 4.2	226,586 + 1.1
Da. Av. Other Oil....	6,173 + 2.5	4,108 +118.1	1,962 + 47.3	1,953 +100.0	13,318 — 4.1	27,514 + 19.2
GASOLINE—Gallons						
Stocks, Aug. 19.....	20,358,000	44,176,000	18,011,000	7,746,000	4,065,000	94,356,000
Prod' 8-19 to 8-26....	10,626,000 + 0.1	12,848,000 + 1.1	8,201,000 — 3.1	1,143,000 — 14.4	5,652,000 + 1.9	38,470,000 — 0.5
Ship. 8-19 to 8-26....	11,860,000 + 11.3	12,333,000 + 12.3	6,244,000 — 19.4	1,912,000 — 1.0	5,451,000 — 11.8	37,790,000 + 0.9
Stocks, Aug... 26....	19,124,000 — 6.1	44,687,000 + 1.2	19,982'000 + 10.9	6,977,000 — 9.9	4,266,000 + 4.9	95,036,000 + 0.7
Ratio Sales to Prod...	111.6%	96.0%	76.0%	167.2%	96.4%	98.2%
KEROSINE—Gallons						
Stocks, Aug. 19.....	2,898,000	6,821,000	2,273,000	35,000	524,000	12,551,000
Prod. 8-19 to 8-26....	2,016,000 + 21.6	1,516,000 — 15.8	573,000 — 32.7	....	220,000 — 33.5	4,325,000 — 6.8
Ship. 8-19 to 8-26....	1,456,000 + 0.9	1,509,000 + 9.7	98,000 — 94.8	....	202,000 — 48.3	3,265,000 — 36.0
Stocks, Aug. 26.....	3,456,000 + 23.1	6,828,000 + 0.1	2,840,000 + 20.8	35,000	452,000 — 3.4	13,611,000 + 8.4
Ratio Sales to Prod...	72.2%	99.5%	17.1%	.....	91.8%	75.5%
FURNACE OIL—Gallons						
Stocks, Aug. 19.....	956,000	4,291,000	76,000	27,000	27,000	5,377,000
Prod. 8-19 to 8-26....	222,000 — 48.7	690,000 + 51.3	31,000 — 9.4	4,000	47,000	992,000 + 7.2
Ship. 8-19 to 8-26....	306,000 + 36.6	532,000 + 38.9	51,000 + 2.0	4,000 — 20.0	49,000 + 48.4	942,000 + 35.5
Stocks, Aug. 26.....	872,000 — 8.8	4,449,000 + 3.7	54,000 — 28.9	27,000	25,000 — 7.4	5,427,000 + 0.9
Ratio Sales to Prod...	137.8%	77.1%	175.9%	100.0%	104.3%	95.0%
GAS OIL—Gallons						
Stocks, Aug. 19.....	7,250,000	18,198,000	2,379,000	2,944,000	2,179,000	32,950,000
Prod. 8-19 to 8-26....	520,000 + 86.3	554,000 + 5.7	674,000	213,000 — 20.2	1,966,000 + 13.9	3,927,000 + 59.1
Ship. 8-19 to 8-26....	544,000 — 22.2	588,000	17,000 — 56.5	126,000 +281.8	2,157,000 — 8.3	3,432,000 + 9.9
Stocks, Aug. 26.....	7,226,000 — 0.3	18,164,000 — 0.2	3,036,000 + 27.6	3,031,000 + 3.0	1,988,000 — 8.8	33,445,000 + 1.5
Ratio Sales to Prod...	104.6%	106.1%	2.5%	59.2%	109.7%	87.4%
FUEL OIL—Gallons						
Stocks, Aug. 19.....	16,120,000	52,568,000	92,788,000	11,582,000	13,197,000	186,255,000
Prod. 8-19 to 8-26....	4,424,000 — 6.8	4,091,000 + 0.2	4,466,000 — 14.7	2,202,000 + 18.1	3,928,000 + 2.9	19,111,000 — 3.2
Ship. 8-19 to 8-26....	4,933,000 + 6.9	1,506,000 — 52.1	6,111,000 + 13.9	2,068,000 — 4.9	4,096,000 + 18.2	18,714,000 — 0.3
Stocks, Aug. 26.....	15,611,000 — 3.2	55,153,000 + 4.9	91,143,000 — 1.8	11,716,000 + 1.2	13,029,000 — 1.3	186,652,000 + 0.2
Ratio Sales to Prod...	111.5%	36.8%	136.8%	93.9%	104.3%	97.9%

Gasoline Produced by Various Methods, Week Ended Aug. 26

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	6,025,000	56.7	7,508,000	58.4	4,450,000	54.3	851,000	74.5	2,074,000	36.7	20,908,000	54.3
Cracked.....	4,087,000	38.5	3,686,000	28.7	3,169,000	38.6	276,000	24.1	2,750,000	48.7	13,968,000	36.3
Natural.....	514,000	4.8	1,654,000	12.9	582,000	7.1	16,000	1.4	828,000	14.6	3,594,000	9.4
Total.....	10,626,000		12,848,000		8,201,000		1,143,000		5,652,000		38,470,000	

+ or — columns are % change over previous week.

Gasoline Stocks and Shipments Gain In Mid-Continent

Staff Special—By Teletype

TULSA, Aug. 29

GASOLINE stocks increased 600,000 gallons at 76 Mid-Continent refineries the week ended Aug. 26. Kansas and West Texas were the only districts which reduced inventories.

Crude oil runs increased 2400 barrels, but gasoline output was 200,000 gallons lower. Gasoline shipments increased 300,000 gallons. North Texas and Louisiana-Arkansas districts being the only ones failing to show gains.

Kerosine production was 300,000 gallons lower as shipments dropped 1,800,000 gallons, but stocks gained 1,000,000 gallons.

Production of furnace oil increased 7 per cent, shipments 36 per cent, and stocks remained virtually unchanged.

Stocks of gas and fuel oils again increased slightly.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Aug. 26. Change in stocks figured from July 29.

GASOLINE

	Gallons
Production	151,743,000
Shipments	154,862,000
Net change in stocks	—3,119,000
Ratio sales to production	102.1%

KEROSENE

Production	17,590,000
Shipments	+17,091,000
Net change in stocks	499,000
Ratio sales to production	97.2%

FURNACE OIL

Production	4,507,000
Shipments	4,361,000
Net change in stocks	+146,000
Ratio sales to production	96.8%

GAS OIL

Production	13,062,000
Shipments	13,806,000
Net change in stocks	—744,000
Ratio sales to production	105.7%

FUEL OIL

Production	79,819,000
Shipments	76,356,000
Net change in stocks	+3,463,000
Ratio sales to production	95.7%

File Petitions In Okla. To Reduce Gas Tax

OKLAHOMA CITY, Aug. 25.—Initiative petitions to place proposals for a reduction in the state gasoline tax rate and a reduction in the license fees on the November general election ballot were filed with the Oklahoma secretary of state Aug. 22.

The petitions seek a reduction in the gasoline tax from 4 cents to 2 cents, reduction of license fees to a flat rate of $3 for autos listed under $1000 and $5 for autos listed above $1000, and elimination of the 50 cent fee collected by agents issuing license plates through having county treasurers issue plates without charge.

About 44,000 names were obtained in a voluntary campaign. About 40,000 names are required. The Oklahoma Petroleum Marketers Association assisted in getting signatures.

J. R. Atchison, manager of the association, reports that those handling petitions found the public quite willing to sign, and that if the work had financial assistance three to four times as many signatures would have been obtained.

Circulation of the petitions also resulted in wide spread publicity regarding reduction of the gasoline tax rate through articles in newspapers.

The proposed bills would remain in force until June 30, 1940.

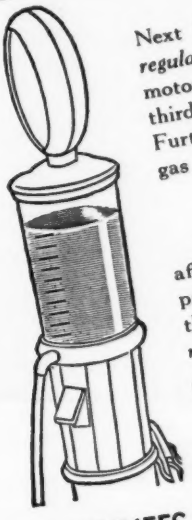
Delbridge Heads A.P.I. Nominating Committee

NEW YORK, Aug. 29.—The nominating committee for the annual meeting of the American Petroleum Institute to be held at Houston, Nov. 15, 16 and 17, has been selected by D. J. Moran, Continental Oil Co., vice-president and chairman of the Institute's division of refining. The committee includes 15 refining men representing all principal petroleum refining areas in the country.

T. G. Delbridge, supervisor of the process division of The Atlantic Refining Co., Philadelphia, is chairman of the committee. Other members are:

H. W. Camp, Empire Oil & Refining Co., Tulsa; E. M. Craig, The Freedom Oil Works Co., Freedom, Pa.; J. L. Finley, Humble Oil & Refining Co., Houston; G. W. Gray, The Texas Co. of Delaware, New York; R. W. Hanna, Standard Oil Co. of Calif., San Francisco; R. E. Haylett, Union Oil Co. of Calif., Los Angeles; C. L. Henderson, Vickers Petroleum Co., Wichita; Emby Kaye, Skelly Oil Co., Tulsa; E. R. Lederer, Texas Pacific Coal & Oil Co., Fort Worth; R. C. Osterstrom, Pure Oil Co., Chicago; A. E. Pew Jr., Sun Oil Co., Philadelphia; E. E. Plumly, Magnolia Petroleum Co., Beaumont; G. H. Taber, Sinclair Refining Co., New York, and F. W. L. Tydeman, Shell Petroleum Corp., St. Louis.

REGULAR GASOLINE IS THE GAS TO COLOR



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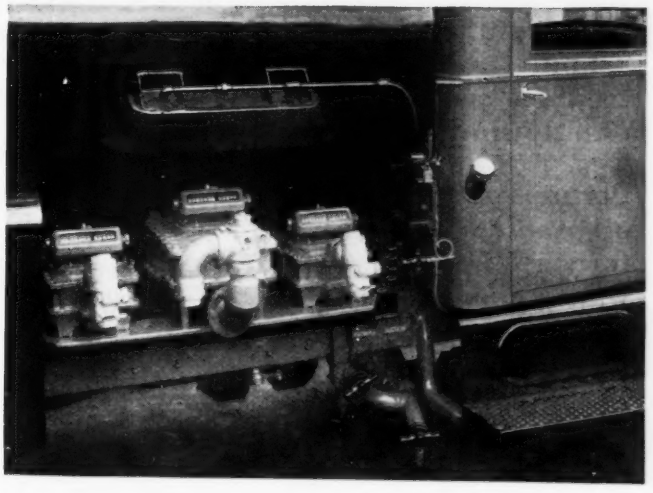

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Refinery - Tank Wagon Markets

Refinery Markets Generally Unsettled; Burning Oils Continue Active

CLEVELAND, Aug. 29

REFINERY markets generally were unsettled in the week ended Aug. 27. Uncertainty in retail gasoline markets hampered tank car trading and prices lost ground in most areas. Lubricating oils suffered from continued slack demand. Burning oils were the only commodities to afford much encouragement to the refiner.

The adoption by Standard of Indiana of a schedule of discounts to retail gasoline buyers Aug. 22 cast a cloud of uncertainty over the retail situation generally in the middle west. A good many of the major independent marketers adopted similar discounts while several of them took no action. Sentiment was divided on the question.

In Michigan, several large distributors offered discounts to retail buyers of 25 gallons or more of gasoline per month, as against the Indiana company's 100-gallon minimum. Late in the week the Indiana company reduced Michigan prices 0.5 cent on third-grade and 1 cent on regular and premium gasolines.

Numerous retail price cuts were made by Standard of Louisiana in its territory. Third-grade prices were cut 1.6 cents by major marketers on the west coast.

While retail gasoline markets in the middle west and the west were suffering from excessive competition, the eastern situation took on a more favorable appearance. New York City prices, below normal for several months, were advanced 1.5 cents. Boston and Providence retail prices were advanced 1 cent, the second within the period of a week.

Tank car gasoline prices in the middle west receded slightly. Jobbers were hesitant about buying in the face of the unsettled retail situation. Many of them thought a general reduction in retail prices would result eventually. Activity in eastern tank car markets was on a larger scale following the sharp drop in prices the week before. Pennsylvania refiners reduced gasoline prices 0.25 cent in an effort to meet open market competition from other refinery districts. It was the first change in Pennsylvania prices since July 1 and the first reduction since late last winter.

The burning oil market remained a seller's market in the Mid-Continent. Statistics compiled recently showed that stocks of the burning oils for the country as a whole, but particularly in the Mid-Continent, were far below the level of a year ago. Demand from middle western buyers continued unabated and prices there gradually worked higher.

In the East, there were the first signs of buyers preparing for the coming heating oil season. Demand increased substantially although it was not sufficient to cause an upward trend in prices.

Demand for lubricating oils generally remained light. It has been negligible since before June 21, when the federal tax became effective. Prices lost ground.

There were no new developments in cargo markets, either domestic or foreign.

Gasoline Prices Down Slightly At Chicago

Staff Special

CHICAGO, Aug. 27

CHANGES in the retail marketing structure in the middle west were the focal points of interest in the Chicago market in the week ended Aug. 27. The first change was inaugurated by the Standard of Indiana Aug. 20 in the form of a discount to customers buying a minimum of 100 gallons a month at their service stations, payable at the end of the month.

A number of other major marketers, including Shell Petroleum Corp., Sinclair Refining Co., Phillips Petroleum Co. and the Pure Oil Co., offered a contract whereby the customer was given his discount at the time the purchase was made. Other companies were undecided as to what plan to follow and the result was a highly unsettled market as the week ended Aug. 27.

Some traders were of the opinion that the final result would be a cut in tank wagon and service station prices over the Indiana territory, with the discount plan being dropped. Others thought the situation would be straightened out by all companies following the same plan of retail discounts, without any cut in retail prices.

Gasoline buying in the open tank car market was comparatively light all week, while demand from contract jobbers was fairly active. Both buyers and sellers were paying close attention to the retail situation. Jobbers apparently were not in a mood to buy until conditions became more settled, while on the other hand, sellers generally were not actively pushing sales due to these same unsettled conditions.

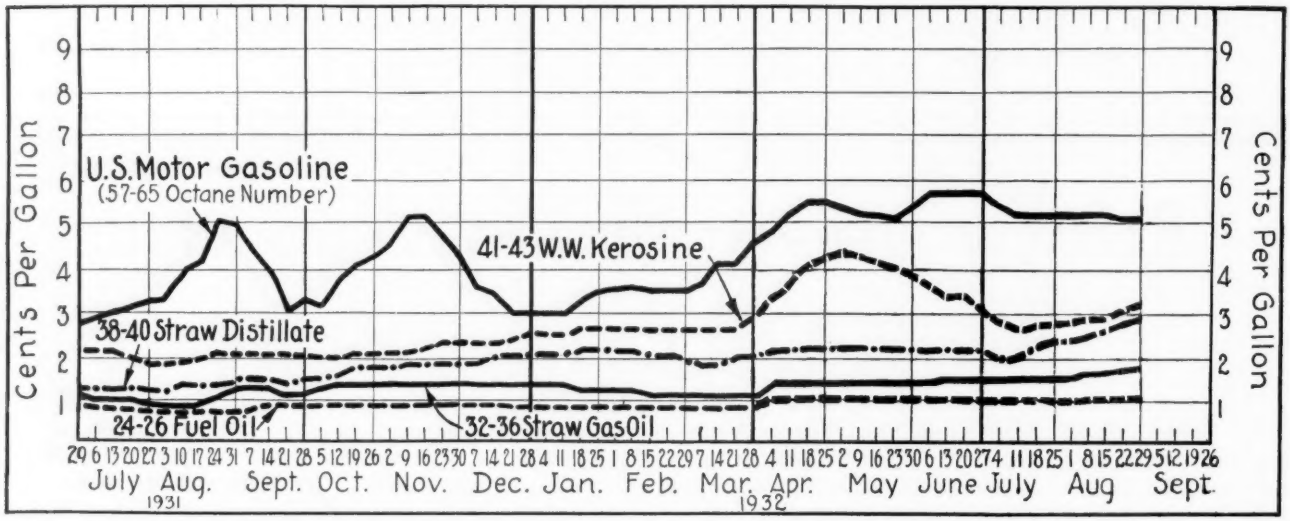
Tank car gasoline prices were adversely affected by conditions in the retail market and generally were off 0.125 cent during the week. Quotations for U. S. Motor generally were at 4.25 cents and up, depending on the octane rating, most of the week. High

Summary of Group 3 Quotations for U. S. Motor Gasoline
In Effect Aug. 29, 1932

	Below 57 Octane No.	57-65 Octane No.	Above 65 Octane No.
Okla.	4.375-4.625	5.00-5.375	5.25-5.625
Kans.	4.375-4.625	5.00-5.375	5.25-5.625
N. Tex.	4.25-4.50	4.625-5.00	5.00-5.375
W. Tex.	4.25-4.50	4.625-5.00	5.00-5.375
La.-Ark.	4.25-4.50	4.75-5.00	5.00-5.25
Ind.-Ill.	4.25-4.50	.....	.....

Prices are those quoted on the basis of f.o.b. Group 3 by refiners in the districts designated.

Current Prices of Principal Mid-Continent Refined Products



Prices shown are in Group 3 basis and extended to date shown in Refinery Market Table Section of this issue

gravity gasolines were inactive and also were offered at lower prices.

Kerosine was in fairly good demand and prices were steady on both the 41-43 and 42-44 w.w. grades. Very little of the former grade was reported available at under 3 cents.

Furnace oil, gas and fuel oils continued as the strongest spots in the market. Although demand was not on as high as a level as previously, most of the trade reported, still it was large enough to take care of most of the available supply. A few grades were reported more freely offered as the week ended, but others still were almost unobtainable for prompt shipment.

Colorado To Vote On 3 Cent Gasoline Tax Limit

DENVER—Petitions for an initiative amendment to the Colorado constitution limiting the amount of the state gasoline tax to 3 cents have been held sufficient, and voters likely will find the amendment on the ballot at the November general election.

Colorado's present tax rate is 4 cents. The proposed amendment would limit the rate to 3 cents, leaving the way open for the legislature to reduce the tax below that sum or abolish it entirely.

Initiative petitions were filed July 7, containing more than 36,000 names. About 25,000 names were required. A protest against the sufficiency of the petitions was filed, and after a hearing lasting 12 days the protest was overruled and the petitions held sufficient.

Apparently there will be no appeal from this action and it seems assured that voters will find the proposed amendment on the November election ballots.

Questions & Answers on New Tax

Question: A local jobber in the United States is importing gasoline from Roumania by boat. The gasoline is placed in the jobber's storage tanks and subsequently part of this gasoline is withdrawn and shipped into Canada by tank car or tank truck. Is the jobber entitled to a refund of the 2½-cents import tax covering the amount of gasoline he re-exports to Canada.

Answer: This question was submitted by us to the Treasury Department for a ruling. We have the following answer signed by H. A. Hayward, assistant general counsel, Bureau of Customs, Treasury Department:

"If the gasoline is entered for consumption and withdrawn from customs custody in the United States the duty of 2½ cents per gallon paid on importation would not be refunded because of later exportation from the United States. Section 558 of the Tariff Act of 1930 provides that no remission, abatement, refund or drawback of estimated or liquidated duty shall be allowed on exportation of any merchandise after its release from the custody or control of the Government except in certain classes of cases specifically provided for which have no relation to the situation described by you.

"Imported merchandise may, however, be transported through the United States under bond without the payment of duty or import tax, or may be entered for warehouse and withdrawn for exportation without the payment of duty under regulations prescribed by the Secretary of the Treasury."

It is obvious from the above reply that the United States jobber importing Roumanian gasoline would have to make proper arrangements to store part of the gasoline under bond in separate tanks if he wishes to avoid payment of the import tax on gasoline he is to re-export. Arrangements to do this probably can be made with the customs authorities at the port of entry.

* * *

Question: We are a jobbing company but blend gasoline also, the amount of blending depending on the season. In winter we blend all our

Prices A Year Ago

Aug. 31, 1931

	Oklahoma	Penna.
58-60 U. S. Motor Gasoline	5.00-5.375	5.50-5.75
Grade A Natural Gasoline	5.25	.....
Kerosine (Okla. 41-43; Pa. 47 w.w.)	2.00-2.25	3.875-4.00
Fuel Oil (Okla. 24-26; Pa. 36-40)	$0.30-$0.325	2.875-3.00
Crude (Okla. 35-35.9)	$0.60	$1.80
Chicago tank wagon (including 3c tax)		14.00c

gasoline. Can we purchase gasoline of a refiner tax exempt all we sell including that which is used in blending and that which is not used in blending? Can we sell to the state and/or its political subdivisions gasoline tax free.

Answer: Sales to you as a producer of gasoline are not taxable under Sec. 620 of the Revenue Act of 1932. You may buy all your gasoline and blending material tax exempt and pay the tax on all gasoline you sell or use just the same as if you were a refiner. You will have to give your supplier a certificate of exemption as provided in Article 7 of Regulations 44. You may sell free of federal tax to states or their political subdivisions gasoline for use in "essential governmental functions."

Illinois Jobbers Fight Gas Tax Increase

CHICAGO, Aug. 27.—Members of the Illinois Petroleum Marketers Association held their annual summer frolic at the Harlem Hills Country Club at Rockford, Aug. 24. Although the primary purpose of the meeting was one of pleasure, several important business matters were discussed at the noon-day luncheon.

The principal subjects discussed at the meeting were the proposed increase of 2 cents a gallon in the Illinois state gasoline tax and the new Service Station Quantity Discount Contract of Standard of Indiana.

The decision was made Aug. 24 to call a special session of the Illinois legislature Sept. 6 to consider and pass some measure for unemployment relief, as the outcome of a meeting of the State Relief Commission and various members of the legislature.

Among the various plans which have been proposed to raise money for relief purposes, the general sales tax, an increase in the gasoline tax, or an amendment to the present gasoline tax law permitting the use of this revenue for unemployment, are likely to receive the most consideration.

Members of the Illinois Marketers Association apparently favored either the general sales tax or an amendment to the present tax law diverting some of these funds for unemployment relief. No definite action was taken at the meeting regarding this matter, but the suggestion was made to all the members that they get in touch with their legislative representatives and make an effort to defeat the proposition regarding the 2-cent increase in the present tax.

The new Service Station Discount agreement came in for considerable discussion, but the Association, as a body, made no decision as to how the members should meet this competition.

F. S. Howick, Shell Petroleum Corp., Chicago carried off the silver cup for the best golfer, with a low gross score of 82. He was closely followed by H. E. Smith, Smith Oil & Refg. Co., Rockford, with a low gross of 83.

Pennsylvania Allowable Cut

PITTSBURGH, Aug. 26.—Allowable production of Pennsylvania grade crude oil has been cut from 75 to 70 per cent for September. The 75 per cent rate was allowed in February, March, July and August and 90 per cent in January, April, May and June.

Mid-Continent Refinery Markets

Burning Oils Continue To Advance

Staff Special

TULSA, Aug. 27

THE price trend for kerosine, furnace oil and gas oil continued to be upward during the week of Aug. 22 to 27, with advances of 0.125 to 0.25 cent a gallon recorded before the end of the week.

Buyers again were active in the market seeking material for both prompt shipment and for over-the-season delivery. Kerosine was more easily obtainable than were the other oils but prices nevertheless moved up in sympathy with furnace oil and the better grades of gas oil. This was particularly true of the 42-44 w. w. grade of kerosine.

Furnace oil was scarce, not because refiners generally were holding the material in storage but because there was none to be obtained. In Oklahoma, for example, one or two companies are reported to have the bulk of the stocks, and these companies are large distributors of furnace oil to retail accounts in the winter months and accordingly have not been anxious to handicap themselves by selling at present price levels to the trade in general.

Virtually the same situation prevails with reference to gas oil. Material in storage apparently is being held there for cracking purposes and will not be offered on the open market unless the demand forces the price to a level where it would be more profitable to sell than to crack the material for gasoline content.

Economist H. K. Davis of the Western Petroleum Refiners Association has broken down the Bureau of Mines figures for gas oil and distillate fuel for the first six months of 1931 and 1932 to the point where Mid-Continent production, shipments and stocks as of June 30 are shown.

Production in the Mid-Continent the first six months of 1931 totaled 7,676,000 barrels as compared with 5,886,000 barrels in the six months of 1932. This is a drop in production this year of 23.3 per cent.

Shipments for the first six months of 1931 totaled 6,602,000 barrels, while the total for the period in 1932 was 7,138,000 barrels, a gain of 8.1 per cent. The stocks on June 30, 1931 totaled 3,646,000 barrels, as compared with 2,039,000 barrels June 30, 1932, a decline of 44.1 per cent!

High gravity fuel oil prices also advanced as material became virtually unobtainable. The ordinary grades of fuel showed little change either in price or demand.

The gasoline situation was disturbed early in the week by the retail policy announced by the Standard of Indiana. Jobbers apparently decided to stay out of the market as much as possible until conditions became more settled, particularly with reference to the policy or policies of major independents.

The low octane gasolines were the ones affected most by the lack of buying. Prices declined slightly in a few districts. The middle octane grade in Oklahoma held its ground fairly well since there was only a small amount available for open market shipment, but prices slipped slightly in Texas districts as a result of the low octane gasoline offerings.

Reports from Texas late in the week, however, indicated much of the distress gasoline had been cleaned up and quotations to resale dealers had advanced slightly.

Natural gasoline continued to mark time at generally unchanged price levels. Some low vapor pressure material was reported offered in the open market late in the week but by Aug. 27 most of it had been cleaned up. One company early in the week bought in excess of 100 cars of Grade 26-70 which took virtually all that grade off the market for the time being.

Bright stock movement was confined mostly to contracts. Open market orders were extremely scarce most refiners reported. Prices generally were unchanged following the reductions last week.

Neutral oils were quiet with price schedules showing no changes.

Wax inquiries were fair for this season of the year, the few refiners in the Mid-Continent making that product reported. Prices continued to be steady at 1.625 to 1.875 cents per pound.

Chicago Tank Car Market

Following prices are in cents per gallon, except fuel oil in barrels, in tank car lots, representing majority of sales to jobbers on Group 3 freight basis, although shipments may originate in other refining districts, such as North, West and East Texas, Louisiana, Arkansas, Indiana, Illinois, Kentucky, etc. Prices do not include state or federal taxes levied on some products.

	Prices Aug. 29	Prices Aug. 22	Prices Aug. 15
50-52, 437 e.p. naphtha	4.25 – 4.50	4.375– 4.625	4.50 – 4.625
U. S. Motor Gasoline:			
Below 57 octane number	4.25 – 4.50	4.25 – 4.625	4.375– 4.625
57-65 octane number	4.625– 5.00	4.75 – 5.125	4.875– 5.125
Above 65 octane number	5.00 – 5.375	5.125– 5.375	5.125– 5.375
60-62 400 e.p. gasoline:			
Below 57 octane number	4.375– 4.625	4.50 – 4.75	4.50 – 4.75
57-65 octane number	4.75 – 5.125	4.875– 5.25	4.875– 5.25
Above 65 octane number	5.125– 5.50	5.25 – 5.50	5.25 – 5.50
64-66 375 e.p. gasoline	4.75 – 4.875	4.875– 5.00	4.875– 5.00
68-70 350-360 e.p. gasoline	4.875– 5.00	5.00 – 5.25	5.00 – 5.25
Aviation Gasoline, below 73 octane number	4.875– 5.25	4.875– 5.25	4.875– 5.25
41-43 water white kerosine	3.00 – 3.125	3.00 – 3.125	2.875– 3.00
42-44 water white kerosine	3.125– 3.25	3.125– 3.25	3.00 – 3.125
38-40 prime white Furnace Oil	*2.875– 3.00	*2.75 – 2.875	*2.75 – 2.875
38-40 straw Furnace Oil	2.75 – 2.875	2.625– 2.75	2.625
32-36 ordinary dark gas oil	1.50 – 1.625	1.375– 1.50	1.375– 1.50
32-36 dark zero gas oil	2.25 – 2.50	2.00 – 2.25	2.00 – 2.25
32-36 straw zero gas oil	*2.50 – 2.625	*2.375– 2.50	*2.25 – 2.375
28-30 zero fuel oil (per bbl.)	*$0.725–$0.80	*$0.70 –$0.75	*$0.65 –$0.70
28-30 fuel oil (per bbl.)	$0.60 –$0.65	$0.60 –$0.65	$0.55 –$0.60
24-26 fuel oil (per bbl.)	$0.475–$0.525	$0.475–$0.50	$0.425–$0.475
18-22 fuel oil (per bbl.)	$0.25 –$0.30	$0.25 –$0.30	$0.25 –$0.275
18-22 zero fuel oil (per bbl.)	$0.35 –$0.40	$0.30 –$0.40	$0.30 –$0.375
14-16 fuel oil (per bbl.)	$0.20 –$0.225	$0.20 –$0.225	$0.20 –$0.225

*Nominal.

Naphtha and Solvent

(Prices are in cents per gallon, in tank car lots, as quoted by Chicago sellers)

	Aug. 29		Aug. 22	
	F.O.B. Group 3 Basis	F.O.B. Chicago District	F.O.B. Group 3 Basis	F.O.B. Chicago District
Stoddard Solvent	5.50 – 5.75	7.00 – 9.00	5.50 – 5.75	7.00 – 9.00
V.M. & P. Naphtha	5.75 – 6.25	7.50 – 8.50	5.75 – 6.25	7.50 – 8.50
Cleaners Naphtha	6.25 – 6.50	9.00	6.25 – 6.50	9.00
Oleum Spirits	5.00 – 5.50	6.00 – 7.00	5.00 – 5.50	6.00 – 7.00
Rubber Solvent	6.00 – 6.50	10.00	6.00 – 6.50	10.00
Lacquer Diluent	7.50 – 8.50	12.50	7.50 – 8.50	12.50

Cargo of East Texas Gasoline En Route to West Coast

LOS ANGELES, Aug. 26

A RUDE shock is being administered to California refiners. It comes in the form of a 60,000-barrel cargo of East Texas gasoline which now is en route to the Fletcher Oil Co., large independent jobber in the Pacific northwest. It is understood that 40,000 barrels will be unloaded at Vancouver and 20,000 barrels at Tacoma.

Reports are that the gasoline was sold at 6.25 cents per gallon c.i.f. point of delivery including the 1-cent federal tax and about 0.75-cent freight, netting 4.5 cents at the Gulf and probably less than 4 cents to the East Texas Refining Co.

Current major company posted prices on third-grade gasoline at Seattle and Tacoma are 17 cents per gallon, including 5-cent state and 1-cent federal tax. This is 5.1 cents above the Los Angeles price which includes 4 cents in state and federal taxes.

Fletcher Oil Co. and others in the northwest formerly handled products of major and large independent California oil companies. However, their contracts were cancelled early this year when price conditions in the coast towns of Oregon and Washington were demoralized. Since then they have been supplied by independent refiners in the Los Angeles Basin.

Following the advance in California crude of 25 cents a barrel on June 26, quotations on bulk gasoline reached a point where it was impossible for the jobbers to continue selling a cent or two below major company prices on third-grade gasoline.

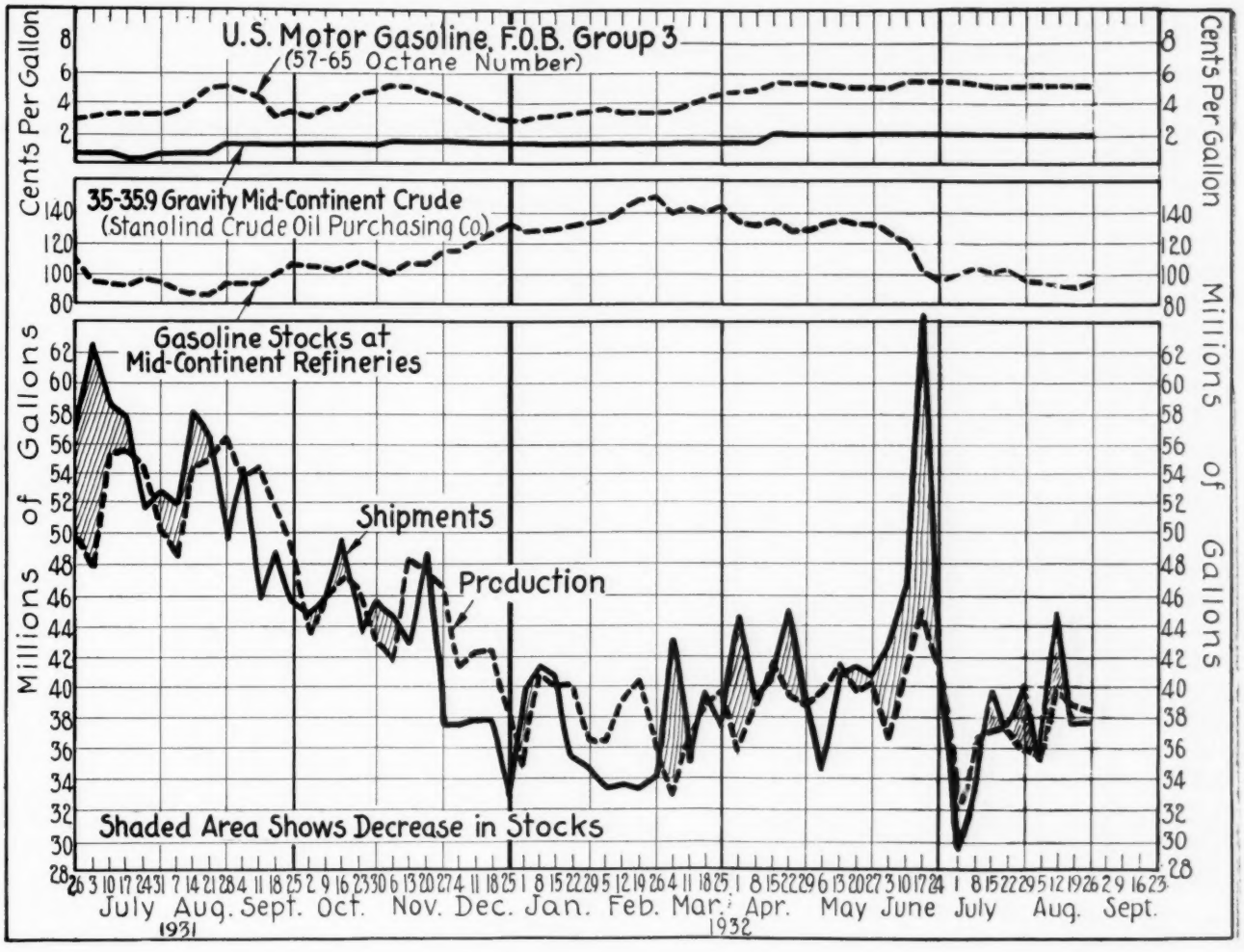
Local experts scoffed at the idea that Texas gasoline could be brought to the Pacific Coast in competition with California. They saw no reason why Pacific Coast prices could not be maintained at high levels even in the face of lower prices at the Gulf. However, with the first cargo on its way against the eastward tide it becomes apparent that the Pacific Coast is no longer an isolated area not subject to conditions in other parts of the country.

Ohio Gasoline Down 1c

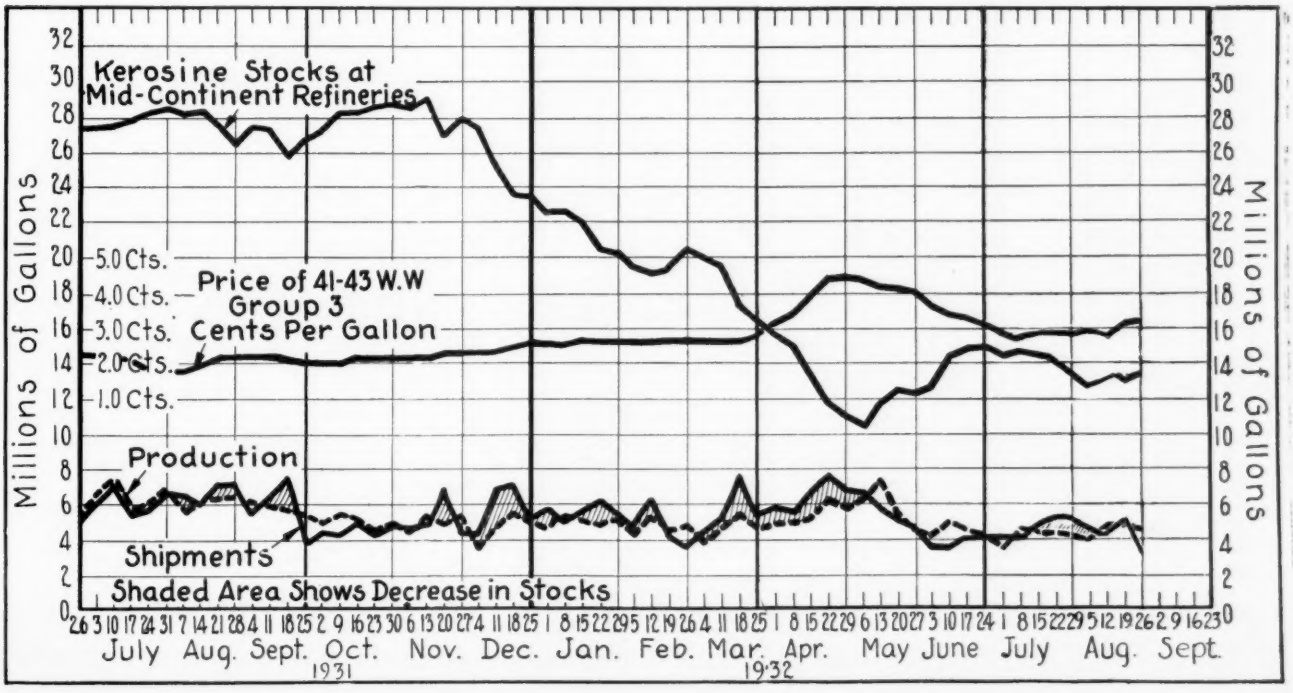
CLEVELAND—Late Aug. 30 Standard Oil Co. of Ohio announced that on Sept. 1 it would reduce tank wagon and service station prices of Sohio Ethyl and X-70 gasolines 1 cent through Ohio. This would make X-70 17 cents tank wagon and 17.5 cents service station, with Ethyl gasoline 3 cents higher.

Barometer of Mid-Continent Refinery Market—Week Ending Aug. 26

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 76 Plants to National Petroleum News



Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 50



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted. Tank car prices do not include state or federal taxes levied on some products.

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices Aug. 29	Prices Aug. 22	Prices Aug. 15
50-52 450 e.p. naphtha...	4.50 – 4.75	4.50 – 4.75	4.625– 4.75
U. S. Motor Gasoline			
Below 57 octane number	4.375– 4.625	4.375– 4.625	4.625– 5.00
57-65 octane number...	5.00 – 5.375	5.00 – 5.375	5.00 – 5.50
Above 65 octane number	5.25 – 5.625	5.25 – 5.625	5.25 – 5.75
60-62, 400 E.P. Gasoline.			
Below 57 octane number	4.50 – 4.75	4.50 – 4.75	4.75 – 5.125
57-65 octane number...	5.125– 5.50	5.125– 5.50	5.125– 5.50
Above 65 octane number	5.375– 5.75	5.375– 5.75	5.375– 5.75
64-66, 375 E.P. Gasoline.	5.00 – 5.125	5.00 – 5.125	5.00 – 5.25
68-70 350-360 e.p. gasoline	5.125– 5.25	5.125– 5.25	5.25 – 5.375
Aviation Gasoline, below 73 Octane number	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

52-54 Naphtha.....	6.50 – 6.625	6.75 – 6.875	6.75 – 6.875
54-56 Naphtha.....	6.625– 6.75	6.875– 7.00	6.875– 7.00
U. S. Motor (58-62°)....	6.625– 6.75	6.875– 7.00	6.875– 7.00
64-66 390 e.p. gasoline...	6.875– 7.125	7.125– 7.25	7.125– 7.25
68-70 350-360 e.p.....	7.00 – 7.25	7.25 – 7.50	7.25 – 7.50

OHIO (Quotations of S. O. Ohio. Delivered any point in Ohio.)

U. S. Motor Gasoline....	8.50	8.50	8.50
60-65 Octane number....	8.75	8.75	8.75

KANSAS (F. o. b. refinery, Kansas destination)

U. S. Motor Gasoline			
Below 57 octane number	4.75 – 5.00	4.75 – 5.00	4.875– 5.125
57-65 octane number...	5.25 – 5.50	5.25 – 5.50	5.25 – 5.625
Above 65 octane number	5.50 – 5.75	5.50 – 5.75	5.50 – 5.875
60-62 400 e.p. gasoline....	5.00 – 5.25	5.00 – 5.25	5.00 – 5.375
64-66 375 e.p. gasoline....	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50

NORTH TEXAS (F. o. b. Wichita Falls district refineries)

U. S. Motor Gasoline			
Below 57 octane number	4.25 – 4.50	4.375– 4.625	4.50 – 4.875
57-65 octane number..	4.625– 5.00	4.75 – 5.125	4.875– 5.25
Above 65 octane number	5.00 – 5.375	5.125– 5.375	5.25 – 5.50
60-62 400 e.p. gasoline...	4.375– 4.625	4.50 – 4.75	4.75 – 5.00
64-66 390 e.p. gasoline....	4.75 – 5.00	4.875– 5.00	5.00 – 5.25
64-66 375 e.p. gasoline....	4.75 – 5.00	4.875– 5.00	5.00 – 5.25
68-70 350-360 e.p. gasoline	4.875– 5.125	5.00 – 5.125	5.125– 5.375

WEST TEXAS (F. o. b. West Texas refinery, for unrestricted shipment)

U. S. Motor Gasoline			
Below 57 Octane number	4.25 – 4.50	4.375– 4.625	4.50 – 4.875
57-65 Octane number..	4.625– 5.00	4.75 – 5.125	4.875– 5.25
Above 65 Octane number	5.00 – 5.375	5.125– 5.375	5.25 – 5.50

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

U. S. Motor Gasoline			
Below 57 Octane number	4.625– 4.75	4.75 – 5.00	5.00
57-65 Octane number..	5.00 – 5.125	5.125– 5.375	5.375
Above 65 Octane number	5.25 – 5.375	5.375– 5.625	5.625

ARKANSAS (Ark., N. La., and Miss. destination)

U. S. Motor Gasoline			
Below 57 Octane number	4.625– 4.75	4.75 – 5.00	5.00
57-65 Octane number...	5.00 – 5.125	5.125– 5.375	5.375
Above 65 Octane number	5.25 – 5.375	5.375– 5.625	5.625

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	5.75 – 8.50	6.00 – 8.50	6.25 – 8.50
54-58 U.S. Motor, for outside state shipment....	5.75 – 7.25	6.00 – 7.75	6.00 – 7.75
42-45 Engine Distillate 445-480 e.p.....	7.00 – 8.00	7.00 – 8.00	6.50 – 7.75

†Prices Nominal. ††Only one refiner Quoting. *Quotations only.

NATURAL GASOLINE

OKLAHOMA (F. o. b. Group 3)

	Prices Aug. 29	Prices Aug. 22	Prices Aug. 15
‡Grade 26-70.....	2.25	2.25	2.25 – 2.375

NORTH TEXAS (F. o. b. Breckenridge)

‡Grade 26-70.....	2.25	2.25	2.25

CALIFORNIA (F. o. b. California refineries)

75-85, 375-390 e.p. for blending.....	5.00 – 5.75	5.00 – 5.75	5.00 – 5.75

‡On inquiries for other grades of natural gasoline, majority of manufacturers quote prices 10 to 15% above or below Grade 26-70 for each 4 pounds difference in vapor pressure between the grade desired and that of Grade 26-70.

BURNING OILS

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

45 w.w. kerosine.....	4.375– 4.50	4.375– 4.50	4.50 – 4.75
46 w.w. kerosine.....	4.50 – 4.75	4.625– 4.75	4.75 – 4.875
47 w.w. kerosine.....	4.75 – 5.00	4.875– 5.125	5.00 – 5.125

OKLAHOMA (F. o. b. Oklahoma refineries)

41-43 w.w. kerosine.....	3.125– 3.25	3.00 – 3.25	2.875– 3.00
42-44 w.w. kerosine.....	3.375– 3.50	3.25 – 3.50	3.00 – 3.25

KANSAS (F. o. b. refinery Kansas destination)

41-43 w.w. kerosine.....	3.375– 3.50	3.25 – 3.50	3.25 – 3.50
42-44 w.w. kerosine.....	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625

NORTH TEXAS (F. o. b. Wichita Falls district refineries)

41-43 w.w. kerosine.....	3.00 – 3.25	3.00 – 3.25	2.875– 3.125

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosine.....	3.50	3.50	3.50

ARKANSAS (Ark., N. La. and Miss. destination)

41-43 w.w. kerosine.....	3.75	3.75	††3.75

CALIFORNIA (F. o. b. California refineries)

38-40 w.w. kerosine.....	4.00 – 4.75	4.00 – 4.75	4.00 – 4.75

NEUTRAL OIL

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

Viscous Neutrals

Vis.	(Viscosity at 70° F.)		
200 No. 3 color, 420-425 flash:			
Zero pour test.....	20.00 –22.00	21.00 –22.00	22.00 –23.00
10 pour test.....	18.00 –20.00	19.00 –20.00	21.00 –22.00
15 pour test.....	17.00 –18.00	17.50 –18.00	19.00 –20.00
25 pour test.....	16.00 –17.00	16.50 –17.00	16.75 –17.00
30 pour test.....	16.00 –16.50	16.25 –16.75	16.50 –17.00
180 No. 3 color, 410-415 flash:			
25 pour test.....	14.00 –15.00	14.50 –15.00	15.00 –16.00
150 No. 3 color, 400-405 flash:			
Zero pour test.....	14.00 –15.00	14.00 –15.00	14.50 –16.00
10 pour test.....	13.00 –14.00	13.00 –14.00	14.00 –15.00
15 pour test.....	12.00 –13.00	12.00 –13.00	13.00 –14.00
25 pour test.....	11.00 –12.00	11.00 –12.00	11.75 –12.00
30 pour test.....	10.75 –11.25	10.75 –11.25	11.50 –12.00

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted. Tank car prices do not include state or federal taxes levied on some products.

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

****MID-CONTINENT** (F. o. b. Mid-Continent refineries)

Vis. Color	Prices Aug. 29 (Viscosity at 100° F.) 0 to 10 Pour Point	15 to 30 Pour Point	Prices Aug. 22 0 to 10 Pour Point	15 to 30 Pour Point
100—No. 2..	4.50	4.00 – 4.25	4.50	4.00 – 4.25
150—No. 3..	6.50	6.25	6.50	6.25
150—No. 4..	6.00 – 6.25	5.75 – 6.00	6.00 – 6.25	5.75 – 6.00
180—No. 3..	7.75	7.25 – 7.50	7.75	7.25 – 7.50
180—No. 4..	7.25 – 7.50	7.00 – 7.25	7.25 – 7.50	7.00 – 7.25
180—No. 5..	7.00 – 7.25	6.75 – 7.00	7.00 – 7.25	6.75 – 7.00
200—No. 3..	8.50	8.00	8.50	8.00
200—No. 4..	8.25	7.50 – 7.75	8.25	7.50 – 7.75
200—No. 5..	7.75	7.25	7.75	7.25
220—No. 3..	9.00 – 9.50	9.00	9.00 – 9.50	9.00
220—No. 4..	9.00 – 9.25	8.50 – 8.75	9.00 – 9.25	8.50 – 8.75
220—No. 5..	8.75 – 9.00	8.50	8.75 – 9.00	8.50
240—No. 3..	10.00 –10.50	9.50	10.00 –10.50	9.50
240—No. 4..	9.50 – 9.75	9.00 – 9.25	9.50 – 9.75	9.00 – 9.25
240—No. 5..	9.50	9.00	9.50	9.00
280—No. 3..	11.50 –11.75	10.75 –11.00	11.50 –11.75	10.75 –11.00
280—No. 4..	10.50 –11.00	10.00 –10.50	10.50 –11.00	10.00 –10.50
280—No. 5..	10.75	10.25	10.75	10.25

SOUTH TEXAS (F. o. b. South Texas refineries)

Vis. Color	Prices Aug. 29 (Viscosity at 100° F., pour test 0)	Prices Aug. 22	Prices Aug. 15
200—No. 3 Pale.....	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
300—No. 3 Pale.....	6.50 – 7.25	6.50 – 7.25	6.50 – 7.25
500—No. 3½ Pale.....	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
750—No. 4 Pale.....	8.00 – 9.00	8.00 – 9.00	8.00 – 9.00
1200—No. 4 Pale.....	9.00 –10.00	9.00 –10.00	9.00 –10.00
200—No. 5½ Red Oil...	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
300—No. 5½ Red Oil...	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
500—No. 6 Red Oil.....	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
750—No. 6 Red Oil.....	7.50 – 8.50	7.50 – 8.50	7.50 – 8.50
1200—No. 5-6 Red Oil...	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50

Note: Red oil prices shown above cover oils with blue cast; one or two refiners ask 0.5c to 1c per gallon higher for green cast red oils.

CALIFORNIA (F. o. b. California refineries)

Vis. Color	(Viscosity at 100° F.)		
100—No. 3.....	10.50	10.50	10.50
200—No. 3.....	13.25	13.25	13.25
300—No. 3.....	13.75	13.75	13.75
450—No. 3.....	14.25	14.25	14.25
550—No. 3.....	14.50	14.50	14.50
600—No. 3.....	14.50	14.50	14.50
200—No. 5.....	12.50	12.50	12.50
300—No. 5.....	13.25	13.25	13.25
400—No. 5.....	13.50	13.50	13.50
500—No. 5.....	13.75	13.75	13.75
600—No. 5.....	14.00	14.00	14.00
700—No. 7.....	14.25	14.25	14.25

CYLINDER STOCKS

MID-CONTINENT (F. o. b. Mid-Continent refineries)

(Prices represent quotations and sales).

190-200 Vis. D at 210° Brt. St.....	21.00	21.00	23.00
150-160 Vis. D at 210° Brt. St.:			
0-10 cold test.....	20.00	20.00	22.00
10-25 cold test.....	19.50	19.50	21.50
25-40 cold test.....	19.00	19.00	21.00
150-160 Vis. E 210° Brt. St.....	19.00	19.00	21.00
600 St. Ref. Olive Green..	4.00 – 5.50	4.00 – 5.50	4.00 – 5.50
600 St. Ref. Dark Green..	3.50 – 4.50	3.50 – 4.50	3.50 – 4.50
Black Oil.....	2.00 – 2.25	2.00 – 2.25	2.00 – 2.25

PENNSYLVANIA (F. o. b. Western Penn. refineries) (A.S.T.M. Tests)

600 Steam Refined, filterable.....	13.00 –13.50	13.50 –14.00	14.00 –14.50
650 Steam Refined.....	16.00 –16.50	16.50 –17.00	17.00 –17.25
600 Flash.....	17.00 –17.50	17.50 –18.00	18.00 –18.25
630 Flash.....	22.00 –22.50	22.50 –23.00	22.50 –23.00
600 Warren E.....	15.25 –15.50	16.00 –17.00	16.50 –17.00
Bright Stock, No. 8 color, 140-150 vis. at 210°, 540-550 flash:			
10 pour test.....	26.00 –27.50	27.00 –29.00	28.00 –30.00
15 pour test.....	24.00 –24.50	25.00 –27.00	26.50 –27.00
25 pour test.....	22.50 –23.00	23.00 –24.00	24.50 –25.00
35 pour test.....	22.50 –23.00	23.00 –24.00	24.50 –25.00

††Only one refiner quoting. †Prices Nominal.

WAX

PENNSYLVANIA (Per pound, F. o. b. New York)

	Prices Aug. 29	Prices Aug. 22	Prices Aug. 15
122-124 white crude scale a.m.p.....	1.875– 2.00	1.85 – 1.875	1.80 – 1.85
124-126 white crude scale, a.m.p.....	1.90 – 2.00	1.85 – 1.90	1.85 – 1.875

****OKLAHOMA** (Per pound in barrels; in a few instances, per pound in burlap bags; F. o. b. Oklahoma refineries.)

124-126 White Crude Scale, a.m.p.....	1.625– 1.875	1.625– 1.875	1.625– 1.875

GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil.....	3.25 – 3.50	3.375– 3.50	3.375– 3.50

OKLAHOMA (F. o. b. Oklahoma refineries)

38-40 straw Furnace Oil..	2.875– 3.00	2.75 – 2.875	2.625– 2.75
36-38 straw Furnace Oil..	2.75 – 2.875	2.625– 2.75	2.50 – 2.625
32-36 straw gas oil.....	1.75	1.625– 1.75	1.50 – 1.625
32-36 straw gas oil zero...	2.50 – 2.75	2.50	2.25 – 2.375
32-36 dark gas oil.....	1.75	1.625– 1.75	1.50 – 1.625
32-36 dark gas oil zero...	2.50 – 2.625	2.375– 2.50	2.25
28-30 fueloil, zero (per bbl.)	†$0.75 –$0.80	†$0.725– 0.75	†$0.65 –$0.70
28-30 fuel oil (per bbl.)...	†$0.60 –$0.625	†$0.60 – 0.625	†$0.55 –$0.575
26-28 fuel oil (per bbl.)...	$0.475–$0.525	$0.475– 0.525	$0.45 –$0.475
24-26 fuel oil (per bbl.)...	$0.425–$0.45	$0.425–$0.45	$0.425–$0.45
22-26 fuel oil (per bbl.)...	$0.40 –$0.45	$0.40 – 0.45	$0.40 –$0.425
18-22 fuel oil (per bbl.)...	$0.40 –$0.425	$0.40 – 0.425	$0.40
16-20 fuel oil (per bbl.)...	$0.375–$0.40	$0.375–$0.40	$0.375–$0.40
14-16 fuel oil (per bbl.)...	†$0.375	†$0.375	†$0.375

KANSAS (F. o. b. refinery Kansas destination)

38-40 straw Furnace Oil..	3.25 – 3.375	2.875– 3.00	2.875
36-38 straw Furnace Oil..	3.125– 3.25	2.625– 2.75	2.625
32-36 straw gas oil.....	†2.50 – 2.75	†2.375– 2.50	†2.125– 2.375
18-22 fuel oil (per bbl.)...	$0.35 –$0.40	$0.40 –$0.425	$0.40 –$0.425
10-14 fuel oil (per bbl.)...	$0.30	$0.30 –$0.325	$0.30 –$0.325

NORTH TEXAS (F. o. b. Wichita Falls district refineries)

38-40 straw Furnace Oil..	2.75 – 2.875	2.625– 2.75	2.50 – 2.625
38-40 p.w. treated Furnace Oil.....	2.875– 3.00	2.75 – 3.00	††2.75 – 3.00
32-36 gas oil, cracked....	2.375– 2.50	2.125– 2.375	2.00 – 2.125
32-36 St. reduced gas oil..	1.625– 1.75	1.625– 1.75	1.50 – 1.625
24-26 fuel oil (per bbl.)...	$0.45 –$0.475	$0.45 –$0.475	$0.475–$0.50
20-24 fuel oil (per bbl.)...	$0.40 –$0.425	$0.40 –$0.425	$0.425–$0.45
18-22 fuel oil (per bbl.)...	$0.35 –$0.375	$0.35 –$0.375	$0.35 –$0.40

WEST TEXAS (F. o. b. West Texas refinery, for unrestricted shipment)

30-32 gas oil.....	2.375	2.25	2.00
28-30 gas oil, zero.....	2.375	2.25	2.00
18-22 fuel oil (per bbl.)...	*0.40 – 0.50	*0.40 – 0.50	*0.40 – 0.50

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil.....	2.50	2.25 – 2.375	2.25
32-36 gas oil, zero.....	2.75	2.50 – 2.625	2.50
14-16 fuel oil (per bbl.)...	$0.35 –$0.40	$0.375–$0.425	$0.35 –$0.40

ARKANSAS (Ark., N. La., and Miss. destination)

32-36 gas oil.....	2.50	2.375	2.00 – 2.125
32-36 gas oil, zero.....	2.75	2.625	2.50
28-30 gas oil.....	2.50	2.375	2.25
20-24 fuel oil (per bbl.)...	$0.45 –$0.475	$0.45 –$0.475	$0.45 –$0.50
9-12 fuel oil (per bbl.)...	$0.375–$0.40	$0.375–$0.40	$0.375–$0.40

CALIFORNIA (F. o. b. refinery)

14-18 fuel oil (per bbl.)...	$0.50 –$0.60	$0.50 –$0.60	$0.45 –$0.55
14-18 Bunker oil (per bbl.)	$0.60 –$0.70	$0.60 –$0.70	$0.60 –$0.70
30-34 gas oil (per bbl.)...	$0.80 –$0.90	$0.80 –$0.90	$0.75 –$0.90
27 Plus Diesel oil (per bbl.)	$0.80 –$0.90	$0.80 –$0.90	$0.75 –$0.90

PETROLATUMS

PENNSYLVANIA (Per pound, in barrels, carload lots, f. o. b. Penna. refinery. In tank cars ⅛c to ¾c per pound less.) Quotations are from majority of refiners.

Snow White.....	6.25 – 6.50	6.00 – 7.00	6.00 – 7.00
Lily White.....	5.00 – 5.50	5.00 – 6.00	5.00 – 6.00
Cream White.....	4.125– 4.50	4.00 – 5.00	4.00 – 5.00
Light Amber.....	2.25 – 2.50	2.25 – 2.75	2.25 – 2.75
Amber.....	2.00 – 2.25	1.875– 2.25	1.875– 2.25
Red.....	1.875– 2.00	1.75 – 2.00	1.75 – 2.00

PETROLEUM COKE

****OKLAHOMA** (F. o. b. Oklahoma refineries)
(Per ton in car lots)

Lump.....	$3.00 –$4.00	$3.00 –$4.00	$3.00 –$4.00
Still run.....	$2.00	$2.00	$2.00
Breeze.....	$0.75 –$1.00	$0.75 –$1.00	$0.75 –$1.00

***Quotations only. **Prices represent quotations and sales.**

New Refining Patents

Distilling Residuum. U. S. P. 1 856 801, May 3, 1932, application filed March 15, 1924; Harold V. Atwell, assignor to Standard Oil Co. of Indiana.

THIS invention relates to an improved, continuous process for economical and efficient coking or dry distillation of the pitchy residuum left from distillation of Mid-Continent or other crudes to bottoms.

The preheated residuum is sprayed into a furnace in such a way that the spray does not impinge on the furnace lining; the distillation is very rapid, the resulting coke is obtained in a finely divided form, and liquid distillates are obtained in yields of about 60 to 65 per cent. Heat is applied at the furnace walls, which may be in the form of a metallic grid; and vapors and combustion gases, together with entrained coke and liquid particles, pass into a settling chamber. The conditions are such as to prevent deposition of coke on the furnace walls.

What is Claimed

Distilling and decomposing residuum to obtain coke and lower boiling oils, by spraying the residuum through a coking chamber having a perforated wall, which is internally heated, introducing inert gases through this wall whereby the gases are heated and serve to coke the residuum particles and produce vapors of lower boiling oils therefrom, passing the finely divided coke and vapors to a separate, unheated chamber, separately withdrawing vapor from this chamber, and cooling the vapors to condense lower boiling oils therefrom.

* * *

Distilling Petroleum. U. S. P. 1,-862 363, June 7, 1932, application filed July 11, 1929; Harlan W. How, assignor to Struthers-Wells-Titusville Corp.

THIS invention relates to a new system for distilling petroleum oils, whereby a remarkably high degree of thermal efficiency is attained, a large saving in condenser water being effected at the same time. These economies are obtained by effective use of both the sensible and the latent heat of the distillates; no other source of heat is used for the vaporization of the lower fractions, fire heat being used only for the vaporization of the last or highest boiling fractions.

The new apparatus comprises an evaporator, a direct fired heater for the high boiling fractions, pipelines through the evaporator, the heater and a flash tank, means for passing either the distillates or the residuum from the flash tank through the vaporizer, and means for preheating the charging stock with the sensible and/or latent heats of the vapors from evaporator and flash tank and of the residuum from the still.

What Is Claimed

In a fractionating system an evaporator, a high boiling point still, means for heating liquid in the still and for passing liquid through the evaporator and thence through the still, means for passing distillate to the evaporator to heat liquid therein so that lighter fractions are vaporized, a vapor separator to which the distillate passes from the evaporator for separation of vapor from condensate, and means for using uncondensed vapor from the vapor separator to heat the liquid entering the still.

* * *

Vapor Phase Cracking. U. S. P. 1,-861 399, May 31, 1932, application filed Nov. 2, 1923; Wm. G. Leamon, assignor to Leamon Process Co.

IN THE cracking process in which heavy oil vapors are passed through hot tubes filled with pumice, difficulty has been encountered because heating of the tubes by direct fire does not permit the close temperature control necessary to prevent carbon deposition on the pumice and on the tube walls.

It has now been found that the full advantage of the method can be retained and that adequate temperature control can be achieved by operating, not with direct-fired tubes, but with indirect heat carried by the incoming vapor from the oil to be cracked. This is accomplished by preliminary heating of the vapor slightly above the temperature to be maintained in the cracking tubes. Thermal efficiency is provided by thorough heat insulation of the cracking tubes.

What Is Claimed

Establishing an oil cracking zone, including a porous adsorptive contact mass, heated to cracking temperature, passing hot oil vapor through the mass at such rates and initial temperature as to maintain the mass at cracking temperature without other heat supply and to effect cracking of the vapors, and separating from the effluent vapor a lighter fraction than the initial vapor.

* * *

Distilling Oil. U. S. P. 1 858 467, May 17, 1932, application filed Aug. 13, 1928 and in Germany Aug. 20, 1927; Sigbert Seelig.

IN THE process for distilling oils in which the oil is preheated and then caused to rise through a bath of molten lead, it has been customary to carry on the process in a simple vessel in which the oil, collecting on the surface of the molten metal, comes in contact with the hot walls of the container. This contact results in local overheating, which is very harmful to the process because of carbon deposition.

A new metal bath still, which overcomes this defect of the process, is so arranged that the oil rises through the molten lead within a tube which is insulated, for example by an air space, from the hot wall of the container. If required, the inner tube may even be cooled by air circulation. A pressure-equalizing device prevents pressure differentials between the inner tube and the outer space of the container.

What Is Claimed

An oil still comprising an externally heated vessel closed at the top by a plug of insulating material, a tube suspended from the plug and spaced from the bottom of the vessel, an annular space being formed between vessel wall and tube wall, pressure-equalizing perforations in the tube near the plug permitting intercommunication between the spaces inside and outside the tube, a molten metal bath partly filling the tube chamber to a height considerably below the perforations, a feed pipe carried in the plug and ending in tightly packed helical coils below the bath surface, and a vapor pipe for the refined oil, its lower end being near the surface of the bath.

* * *

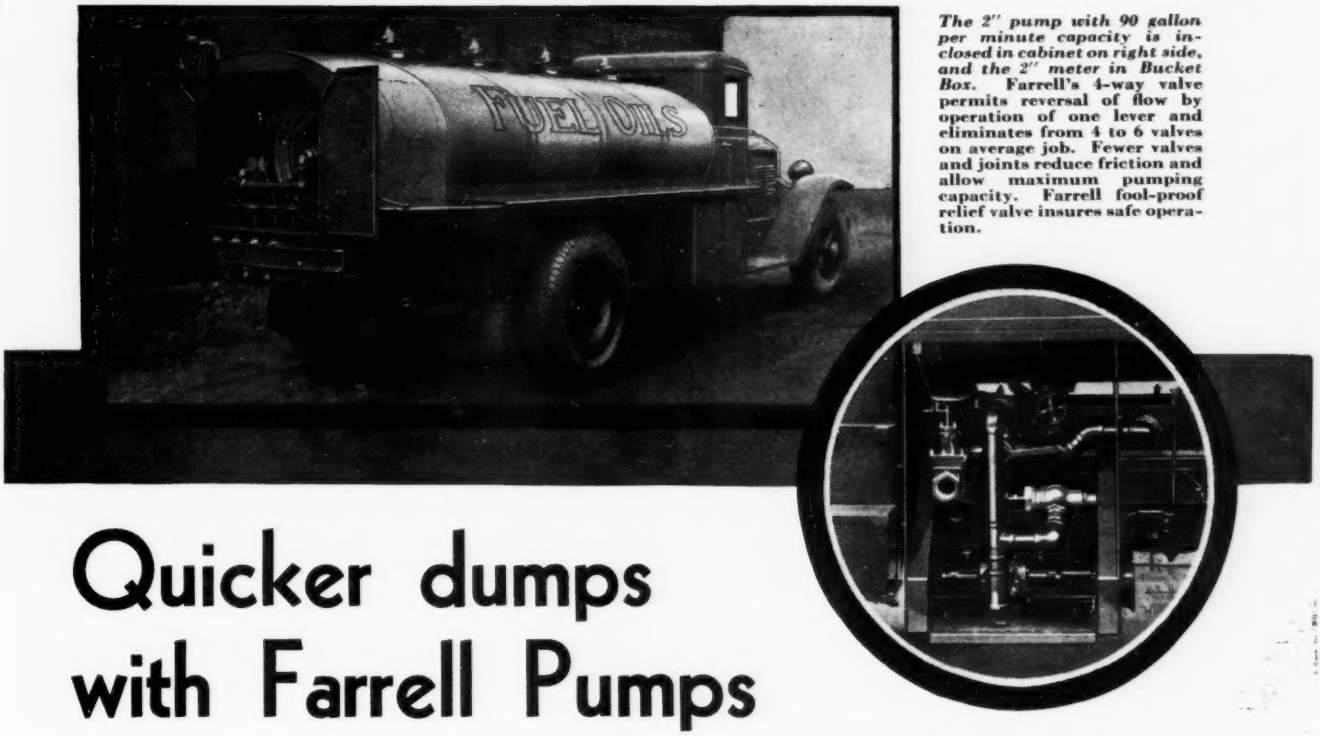
Fractionation. U. S. P. 1 862 758, June 14, 1932, application filed Feb. 9, 1929; Sylvan R. Merley, assignor to Doherty Research Co.

THE fractionating columns ordinarily used for separating mixed liquids do not function satisfactorily in the case in which the condensate contains two immiscible liquids; when this occurs, the trays of a bubble column allow the lighter layer to overflow first, with the result that the heavier layer is left with only a film of the lighter layer.

A new apparatus has therefore been designed to provide proper rectification of both layers in an immiscible system, intimate contact being secured with both liquids in the proportion in which they condense on the tray. To this end, an overflow band is placed in such a position that the heavier liquid is caused to flow under the band and the lighter liquid to flow over the band, both being then led into the same overflow pipe. Thus efficient separaton into desired fractions is made possible even with immiscible condensates.

What is Claimed

A vapor rectifying column comprising vertically spaced bubbler trays, a liquid overflow pipe projecting above each tray to retain condensate thereon and to conduct relatively heavy condensate to the next lower tray, and a vertically adjustable overflow band spaced from, surrounding and projecting above each overflow pipe to maintain a higher level of relatively light condensate on each tray.



The 2" pump with 90 gallon per minute capacity is inclosed in cabinet on right side, and the 2" meter in Bucket Box. Farrell's 4-way valve permits reversal of flow by operation of one lever and eliminates from 4 to 6 valves on average job. Fewer valves and joints reduce friction and allow maximum pumping capacity. Farrell fool-proof relief valve insures safe operation.

Quicker dumps with Farrell Pumps

Increased Fuel Oil Profits

The discharge unit measures your profit or loss. Quicker dumps mean more trips per day, lower cost per trip, increased profits.

The Farrell power pump discharge unit is built to stand the "gaff" of 24 hour service—to handle any gravity oil, in any weather, over any length hose, and to pump it in profit-making time.

The tanks for Farrell fuel oil jobs are skillfully designed to give proper load distribution, maximum payload, and safe economical operation. Farrell pioneered the fuel oil tank business and still leads the way to greater fuel oil profits.

Let Farrell build your next fuel oil job—call nearest office or write for specifications and prices.

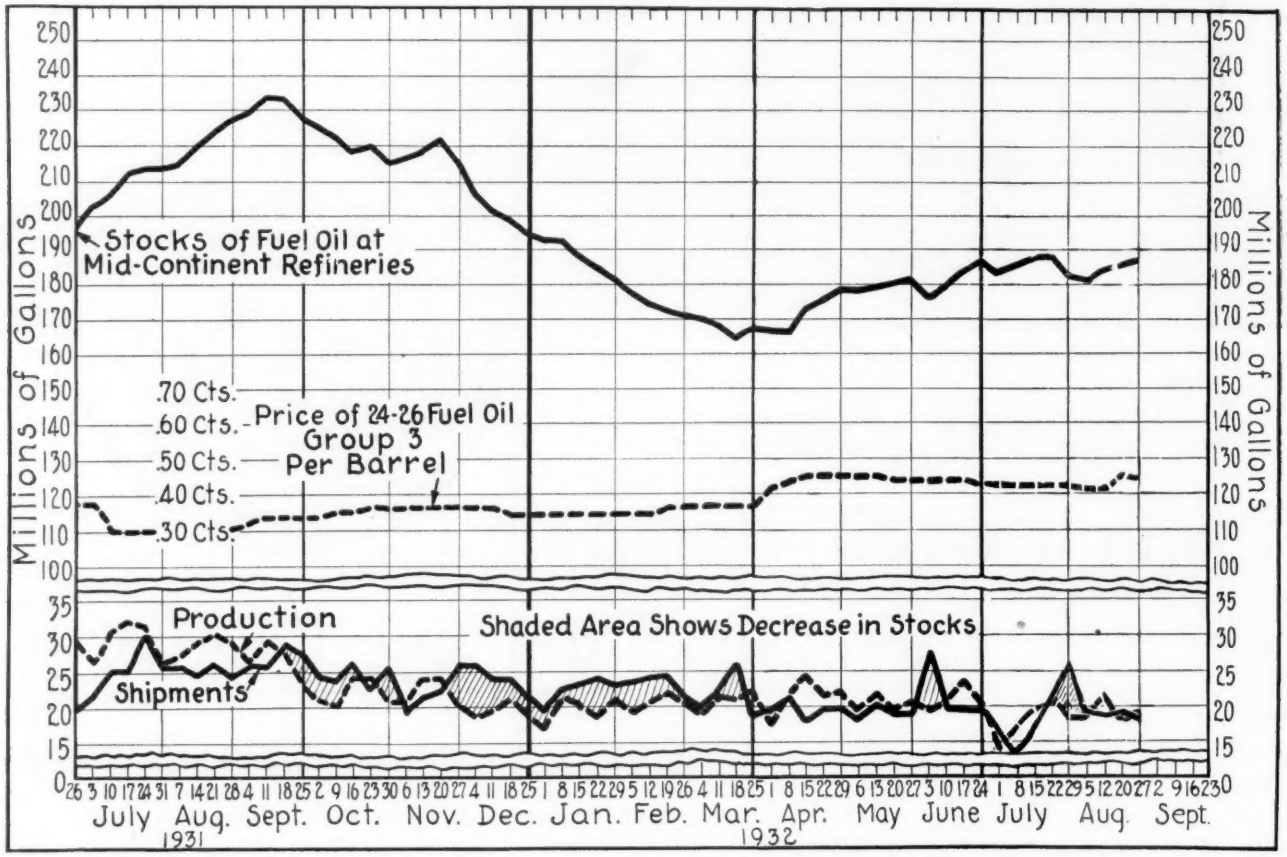
FARRELL MANUFACTURING COMPANY
Joliet, Illinois
CHICAGO — DETROIT — CLEVELAND — PHILADELPHIA — NEW YORK

Farrell

MODERNIZED TRUCK TANKS

Barometer of Mid-Continent Refinery Market—Week Ending Aug. 26

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 76 Plants to National Petroleum News



California Refinery Market

Third-Grade Cut Hurts T. C. Market

LOS ANGELES, Aug. 27

RECESSIONS in third-grade gasoline prices throughout the southern California area early in the past week provided practically the only feature to otherwise dull Pacific coast petroleum markets.

Export inquiry and spot sale were particularly inactive although traders indicated some actual business was in the offing from Pacific foreign points.

East coast buyers continued to show exploratory interest in quotations on California furnace oil for September or October lifting, but the trade was not overly optimistic concerning the possibility of actual sales.

Some inquiry was received from South America and the Far East for quotations on cased kerosine, but the buyers indicated they expected to pick up a prime white product at about $0.90 a case, f.a.s. the vessel, San Pedro. This is about 10 to 15 cents under previous minimum quotations by local independent suppliers.

Political disturbances in several of the South American countries have presented problems of exchange that hamper negotiations and several suppliers have indicated they will hold off pending settlement of these difficulties.

In the domestic markets tank-truck-and-trailer quotations on independent gasolines were further reduced folowing a 1.6-cent reduction in major third-grade brands Aug. 23 over the southern half of California.

Spot cars of gasoline were reported moved in several instances at 5.75 cents, exclusive of all tax. This compares with a 6.9-cent tank wagon price on major and large independent third-structure products. For movement into out-of-state points the range was 5.75 cents up with demand only fair.

Citrus growers were reported seeking quantities of burning oil for smudging during the coming winter and numerous spot lots of 32-34 gravity oil were moved at prices ranging from $0.80 to $0.95 a barrel. A slightly better demand for fuel oil also was noticed. Quotations were unchanged at $0.45 to $0.55.

Texas Co. Man Heads Code Committee In Michigan

NEW YORK.—W. F. Murdy, The Texas Co., Detroit, has been appointed chairman of the Michigan code committee by W. T. Holliday, president of the Standard Oil Co. of Ohio, Cleveland, and chairman of the division of marketing of the American Petroleum Institute. Mr. Murdy succeeds H. A. Coffin, vice-president of the White Star Refining Co., Detroit, who becomes chairman of the middle-western region code committee.

Other members added to the Michigan committee are: R. S. Campbell and

B. L. Snyder, both with the White Star Refining Co, Detroit, and V. T. Whitney, Gulf Refining Co., Toledo, O.

On the Institute's general committee of the division of marketing Mr. Holliday appointed George C. Morris, The Pure Oil Co., Chicago, succeeding L. S. Westcoat, who resigned.

Pennsylvania Markets

Gasoline Prices Off 0.25 Cent

CLEVELAND, Aug. 29.—A downward turn in gasoline prices for the first time since late last winter was an outstanding feature in the western Pennsylvania refinery market last week. Burning oils generally were steady and afforded the most encouragement to refiners of any commodities in the market. Lubricating oils continued easy with price recessions the rule in this division of the refined oil list.

Competition from other refinery areas was reported as the cause for the reduction in gasoline tank car prices. Refiners asserted they were shipping less and less gasoline to their regular open market customers and the reduction in prices last week was made in an effort to retain this business.

U. S. Motor gasoline was reduced 0.25 cent to range from 6.625 to 6.75 cents after having held at 6.875 to 7 cents since July 1. Other grades of gasoline and naphtha were off proportionately with U. S. Motor.

Fall plowing and early preparations for the coming heating oil season stimulated the demand for kerosine. Traders without exception reported increased shipments of the product. The demand was not sufficient to cause a reversal of the price trend but at the same time considerable distress kerosine was taken off the market. The position of stocks was said to have improved greatly and prices from now on would be more sensitive to increased demand.

Fuel oil was a shade easier in some parts of the field but held relatively firm in other districts. The 36-40 oil sold rather freely at 3.25 cents, a reduction of 0.125 cent from the market's previous low, in and around Oil City.

The better demand anticipated for lubricating oils failed to materialize and offerings from sellers increased; prices of cylinder stocks, bright stock and neutral oils were off in amounts ranging from 0.25 to 1 cent a gallon.

Wax showed further improvement. Several refiners reported being sold up through September and prices moved up a few points.

Trying To Find A Good Reliable Refiner Source To Buy Petroleum Products Is Like Looking For

A Needle In A Hay-Stack

Writes an Illinois Distributor who has just made us his source of supply

When you deal with us you are assured of a dependable source of supply, upon which you can rely for high quality merchandise priced right, delivered promptly, and comprising

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100% PENNSYLVANIA *Petroleum Products*

100% Pennsylvania Motor Oils		Long Residuums
Bright Stocks	Neutrals	Cylinder Stocks
Kerosene	Gasoline	Cleaning Solvents
Naphtha	Fuel Oil	Paraffine Waxes

Petrolatum (All colors from snow-white to green)

Pennsylvania REFINING CO.

REFINERIES Karns City and Titusville, Pa.

OFFICES Butler, Pa.

Gasoline Cut Widens Third Grade Differential to 5.6 Cents

LOS ANGELES, Aug. 25

THE anticipated break in southern California third-grade gasoline schedules took place early in the past week when major and large independent companies reduced wholesale and retail prices 1.6 cents in an effort to regain some of the gallonage lost to cut-price independents. Regular white and Ethyl prices were unchanged.

Effective Aug. 23, the Standard of California announced its third grade product, "Flight," would retail through its stations at 11.9 cents in the Los Angeles Basin and 12.4 cents in the neighboring towns as far south as San Diego. Other major and large independent companies followed.

This is the first time major California companies have quoted gasoline prices in tenths of a cent, although it is quite common practice among independent resellers. It is believed that this will enable the larger companies to combat cut-rate competition better than on the whole or half-cent basis.

Since no reduction was made in the high octane and Ethyl brands, a differential of 5.6 cents now prevails between posted prices on third-grade and regular-white products. Prior to the recent reduction, this differential was 4 cents and approximately 60 to 65 per cent of major-company sales was third-grade.

Although the number of motorists who will now change from the high quality gasoline to the cheap brands is materially reduced, it is anticipated that regular-white and Ethyl sales will be effected by the wider spread.

If it is necessary to reduce the price brackets on the better grades of gasolines in order to maintain a fair volume of sale, it is anticipated that crude prices may be revised downward, especially in view of the fact that California crude production has shown a strong tendency to exceed proration allowables.

In the Los Angeles Basin there are about 85 large independent dealers who are leaders among the cut-price element. These dealers have large underground storage facilities, exceeding 100,000 gallons in some instances, that they fill in times of low prices.

On June 26 when crude was advanced 25 cents a barrel, gasoline prices were raised 2.5 cents. Prior to this advance, however, all the large storage was filled to the brim—enough to last some stations nearly two months. For a period of four to six weeks these independent resellers stayed within a half-cent of the price on major third-grade brands. On this basis their sales were comparatively small so the spread was gradually increased to a cent and then a cent and a half.

When their storage was exhausted and efforts were made to buy again it was found that independent wholesale prices were up. However, independent refiners had accumulated gasoline stocks during this period of slack demand and they shaded prices when offered cash for amounts of 40,000 to 50,000 gallons. Within the past two weeks, spot sales were reported in which the net-back price including 4 cents in taxes was 9.625 cents.

Independent gasoline retailed as low as 11 cents in competition with a third-grade price of 13.5 cents and the 2.5 cents difference was more than sufficient to attract business from the major stations.

Independent refiners were not alone responsible for unstable marketing conditions on the Pacific Coast. One major company, which is spoken of as the largest "bootlegger" on the west coast, operates through two subsidiary refiners, to which it supplies gasoline at a price on par with any independent refiner.

Dealers supplied by these two companies have been retailing gasoline at 11.5 to 11.9 cents in competition with the major company's third-grade brands prices at 13.5 cents.

Late Market Changes

CLEVELAND—Aug. 31 Standard Oil Co. of Ohio reduced tank wagon price of Sohio X-70 gasoline 2 cents and service station price 2.5 cents, and Renown Green service station price 2.5 cents, through Shelby county to new prices of 16 cents for X-70, and 14 cents for Renown Green.

Eastern Domestic Markets

Lower Prices Steady Gasoline

Staff Special

NEW YORK, Aug. 27

EASTERN gasoline prices experienced a period of leveling out during the week ended Aug. 20. Tank car prices at most points along the seaboard settled to a fairly uniform basis in line with the levels established at New York harbor during the previous week. Kerosine and heating oil prices were shaded in some markets, but recessions in the general market were slight.

A better tone in the market followed the advance of 1.5 cents in service station prices by the Standard Oil Co. of New York in metropolitan New York on Aug. 24. Advances of 1 cent in both Boston and Providence also were well received.

Tank car offerings of gasoline above 65 octane number were generally made at 6.75 cents. Buying at that price was in good volume at New York, Philadelphia and Baltimore. Sales at under 6.75 cents were few and far between. Generally speaking the gasoline market was orderly throughout the week.

Spot markets in New England were fairly active at unchanged prices. Tank car prices of gasoline followed the advances in Boston and Providence retail markets. Minimum selling prices moved up fractionally and substantial support to the general 7 cent market was noted.

Kerosine was unsettled by freer offerings at 5.25 cents in the principal markets. Burning oils were in a seasonal slump, but only occasional reports of price shading were reported. Bunker oil, grade C, was steady at $0.85 per barrel at New York and Boston.

Cargo markets at the Gulf showed signs of increased buying of kerosine and gas oil. Several buyers were scouting the market for their winter supplies of heating oils. Reports on the price situation generally revealed that kerosine was held at 4.5 cents. Gasoline was rather closely held at 5.5 cents for domestic shipment. Foreign buyers showed no interest in the American market.

Wax Markets

Trading Light

NEW YORK, Aug. 27.—Little buying interest appeared in wax markets during the week just ended. Trading was reported slow in both the New York and New Orleans markets. Prices for scale waxes were generally unchanged. Several of the higher melting point fully refined grades were quoted a shade lower.

On The Lazy Bench

A Practical Application

It was the first real snow storm of the year and the teacher felt it her duty to caution her pupils before dismissing them.

"Boys and girls should be very careful about colds this time of year," she began solemnly. "I once had a darling little brother, just six years old. One day he went out in the snow with his new sled and caught cold. Pneumonia set in and in three days he was dead."

The schoolroom was so quiet you could hear a pin drop.

Then a voice in the back row piped up: "Where's his sled?"

—Shell Globe
Shell Petroleum Corp.

* * *

Take a tip from me,
With no ifs or buts.
Get into the oil bizness
An go completely nuts.

PETE ROLEUM
—Gusherville News
Vickers Petroleum Corp.

* * *

Would the Duce Be Wild?

HE (proudly displaying his latest portrait): "How do you like my new photo? My friends all tell me I look like Mussolini."

SHE (after scrutinizing the photograph): "You sure do look like the Duce."

—Marquette Lubricator
Marquette Petroleum Products, Inc.

* * *

O. K. Johnny

Little Johnny—"Mother, I told a lie in school today."

Mother—"Why, Johnny, I can't believe it!"

Johnny—"Teacher asked me where I was born. I know I was born in the Women's General Hospital, but I didn't want 'em to think I was a sissy, so I said in the Yankee Stadium."

—The Unloading Rack
A. Y. McDonald Mfg. Co.

* * *

Actually, the sheriff is about the only individual who has any license to put on the writs at the present time.

—Union Oil Bulletin
Union Oil Co.

* * *

Uncle Sam's Mistake

Young Wife (at post office window): "I wish to complain about the service."

Postmaster: "What is the trouble, madam?"

Young Wife: "My husband is in Albany on business and the card he sent me is postmarked Atlantic City."

* * *

Not Alone

Waiter (to salesman who always ordered highest priced food on menu, but now eating very sparingly)—"On a diet, sir?"

Salesman—"Nope; on commission."

—The Unloading Rack
A. Y. McDonald Mfg. Co.

FIRST { MODERN MOTOR OIL • LOW POUR TEST OIL • OIL HIGHLY RESISTANT TO HEAT AND WEAR

. . . pioneer oil for todays mighty motors!

Because it was the first to offer the characteristics necessary to complete lubrication in modern motors, BURNHAM "Tested" PALES is now the acknowledged leader of modern lubrication . . . It combines *every* element that makes for heat-resistance, perfect lubrication, long life, protection against strain and friction of modern high-compression, high-speed motors. These unique pioneering characteristics will profit you . . . *Write for full information, prices and a free copy of "The Tale of the Pale."*

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Branch: Guarantee Title Bldg., Cleveland
Refinery: Burnham, Ill.

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"the modern oil for modern motors"

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Yes—I'm one that is always promising myself "my own personal copy" of NATIONAL PETROLEUM NEWS each week. So here goes! Send me the next 52 issues for which I enclose $3.50. (Foreign $5, Canada $6, including tax.)

NAME .....

Address .....

Div. of Industry .....

Company .....

Complete Seaboard Markets

Prices on this page do not include federal tax levied on some products

Eastern Domestic Markets

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of sales and quotations. Prices shown below do not include inspection tax levied in Florida and South Carolina.)

	Prices Aug. 29	Prices Aug. 22	Prices Aug. 15
U. S. MOTOR GASOLINE:			
Below 65 Octane Number			
New York harbor	6.50 – 6.75	6.50 – 6.75	7.25
Boston district	6.75 – 7.00	6.75 – 7.00	6.50 – 6.75
Providence district	6.75 – 7.00	6.75 – 7.00	6.50 – 6.75
Philadelphia district	6.50 – 6.75	6.50 – 6.75	7.25
Baltimore district	6.50 – 6.75	6.50 – 6.75	7.00 – 7.25
Norfolk district	7.50	7.50	7.50
Charleston district	7.50	7.50	7.50
Savannah district	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
Jacksonville district	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
MOTOR GASOLINE:			
65 Octane Number and Above			
New York harbor	6.75 – 7.00	6.75 – 7.00	7.50
Portland district	7.50	7.50	7.50
Boston district	7.00 – 7.25	7.00 – 7.25	6.75 – 7.00
Providence district	7.00 – 7.25	7.00 – 7.25	6.75 – 7.00
Philadelphia district	6.75 – 7.00	6.75 – 7.00	7.50
Baltimore district	6.75 – 7.00	6.75 – 7.00	7.25 – 7.50
Norfolk district	7.75	7.75	7.75
Charleston district	7.75	7.75	7.75
Savannah district	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Jacksonville district	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50

Note: Some refiners in New England quote gasoline in tank cars, delivered, at 5c to 6c under service station price at point of destination.

AVIATION GASOLINE:			
Below 73 Octane Number			
New York harbor	9.00 –10.00	9.00 –10.00	9.00 –10.00
Philadelphia	9.00 –10.00	9.00 –10.00	9.00 –10.00
Baltimore	9.00 –10.00	9.00 –10.00	9.00 –10.00
Boston	9.00 –10.00	9.00 –10.00	9.00 –10.00
73 Octane Number and Above (Octane determination basis 300° F; 600 R.P.M.)			
New York harbor	11.00 –12.00	11.00 –12.00	11.00 –12.00
Philadelphia	11.00 –12.00	11.00 –12.00	11.00 –12.00
Baltimore	11.00 –12.00	11.00 –12.00	11.00 –12.00
Boston	11.00 –12.00	11.00 –12.00	11.00 –12.00
WATER WHITE KEROSINE			
New York harbor	5.25 –5.50	5.50	5.50
Philadelphia district	5.25 – 5.50	5.50	5.50
Baltimore district	5.25 – 5.50	5.50	5.50
Boston district	5.25 – 5.50	5.25 – 5.50	5.50
BURNING OILS:			
New York harbor:			
Furnace oil No. 1	5.50	5.50	5.50
Heating oil No. 2	4.50	4.50	4.50
Distillate oil No. 3	4.00 – 4.50	4.00 – 4.50	4.00 – 4.50
Industrial oil No. 4	4.00	4.00	4.00
Philadelphia District:			
Furnace oil No. 1	5.50	5.50	5.50
Heating oil No. 2	4.50	4.50	4.50
Distillate oil No. 3	4.00 – 4.50	4.00 – 4.50	4.50
Boston district:			
Furnace oil No. 1	4.75 – 5.00	4.75 – 5.00	5.00
Heating oil No. 2	4.00 – 4.25	4.00 – 4.25	4.25
Distillate oil No. 3	3.75 – 4.00	3.75 – 4.00	4.00
Industrial oil No. 4	3.50 – 4.00	3.50 – 4.00	3.50 – 4.00
GRADE C BUNKER OIL (Lighterage 5c per bbl. additional)			
New York harbor	$0.85	$0.85	$0.85
Philadelphia district	$0.85	$0.85	$0.85
Boston district	$0.85	$0.85	$0.85
DIESEL OIL			
New York harbor	$1.65	$1.65	$1.65
GAS OIL: 28-34 Gravity			
New York harbor	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
Philadelphia district	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25

New York Export Market

(Lubricating oils in cents per gal. in bbls. F. a. s. New York. Paraffin oil prices represent bulk shipment in tankers f. a. s. New York.)

	Aug. 29	Aug. 22	Aug. 15
CYLINDER OILS (Pennsylvania Products)			
Bright stock, No. 8 color	29.00 –30.00	29.00 –30.00	30.00 –31.00
Bright stock, No. 6½ color diluted	28.00 –29.00	28.00 –29.00	29.00 –30.00
600 D filtered	26.00 –28.00	26.00 –28.00	26.00 –28.00
600 Warren E filtered	21.00 –22.00	21.00 –22.00	22.00 –23.00
600 stm. refd, unfiltered	19.00 –20.00	19.00 –20.00	20.00 –21.00
650 stm. refd. unfiltered	21.00 –22.00	21.00 –22.00	22.00 –23.00
600 flash steam refined	22.00 –23.00	22.00 –23.00	22.50 –23.50
630 flash, steam refined	27.50 –28.00	27.50 –29.00	27.50 –29.00
RED PARAFFIN OILS (Vis. 100°)			
300 vis. No. 6½ color	9.50	9.50	9.50
250 vis. No. 6 color	9.00	9.00	9.00
200 vis. No. 6 color	8.25	8.25	8.25
PALE PARAFFIN OILS (Vis. 100°)			
230 vis. No. 3¾ color	10.00	10.00	10.00
180 vis. No. 3¼ color	9.50	9.50	9.50
100 vis. No. 2¼ color	5.00	5.00	5.00

Wax Market

(Prices in cents per pound, f.a.s. carload lots. Tests made by A. S. T. M. method with melting points converted into A. M. P. by adding 3° F.)

NEW YORK	Aug. 29	Aug. 22	Aug. 15
124-126 Yellow crude scale	1.75 – 1.875	1.75 – 1.875	1.75 – 1.875
122-124 White crude scale	1.875– 2.00	1.875– 2.00	1.875– 2.00
124-126 White crude scale	1.875– 2.00	1.875– 2.00	1.875– 2.00
123-125 Fully refined	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
125-127 Fully refined	2.875– 3.00	2.875– 3.00	2.875– 3.00
128-130 Fully refined	3.00 – 3.125	3.125– 3.25	3.125– 3.25
130-132 Fully refined	3.25 – 3.375	3.375	3.375
133-135 Fully refined	4.00 – 4.125	4.00 – 4.25	4.00 – 4.25
135-137 Fully refined	4.125– 4.25	4.25	4.25

NEW ORLEANS	Aug. 29	Aug. 22	Aug. 15
124-126 Yellow crude scale	1.75 – 1.875	1.75 – 1.875	1.75 – 1.875
122-124 White crude scale	1.875– 2.00	1.875– 2.00	1.875– 2.00
124-126 White crude scale	1.875– 2.00	1.875– 2.00	1.875– 2.00
123-125 Fully refined	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
125-127 Fully refined	2.875– 3.00	2.875– 3.00	2.875– 3.00
128-130 Fully refined	3.00 – 3.125	3.125– 3.25	3.125– 3.25
130-132 Fully refined	3.25 – 3.375	3.375	3.375
133-135 Fully refined	4.00 – 4.125	4.125– 4.25	4.125– 4.25

Gulf Coast Bulk Market

(Prices are f. o. b. Gulf oil terminals representing sellers' opinions except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

	Prices Aug. 29	Prices Aug. 22	Prices Aug. 15
For Domestic Shipment			
U. S. MOTOR GASOLINE:			
Below 65 octane number	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
65 octane number and above	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
KEROSINE			
41-43 w.w.	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
For Export Shipment			
GASOLINE			
U. S. Motor gasoline	4.00 – 4.50	4.00 – 4.50	4.00 – 4.50
60-62, 400 e.p. gasoline	4.125– 4.75	4.125– 4.75	4.125– 4.75
61-63, 390 e.p. gasoline	4.25 – 5.00	4.25 – 5.00	4.25 – 5.00
64-66, 375 e.p. gasoline	4.25 – 5.25	4.25 – 5.25	4.25 – 5.25
U. S. Motor, (cases cargoes)	$1.50	$1.50	$1.50
64-66, cases (cargoes)	$1.60	$1.60	$1.60
KEROSINE			
41-43 water white	4.50	4.50	4.50
41-43 prime white	4.25	4.25	4.25
Water white, cases (cargoes)	$1.40	$1.40	$1.40
Prime white, cases (cargoes)	$1.30	$1.30	$1.30
(For Domestic and/or Export Shipment)			
GAS and BUNKER OILS			
*26-30 translucent gas oil	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
*30 plus translucent gas oil	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
Diesel Oil ships' bunkers	$1.50	$1.50	$1.50
Grade C bunker oil, for ships' bunkers, per bbl.	$0.70	$0.70	$0.70
Grade C bunker oil, per bbl. in cargoes	$0.55	$0.55	$0.55

*Less than ½ of 1% sulphur.

MEXICAN CRUDE AND BUNKER OILS (f.o.b. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid, per bbl.	$0.455–$0.48	$0.455–$0.48	$0.455–$0.48
Grade C bunker oil for bunkering, taxes paid, per bbl.	$0.70	$0.70	$0.70
SOUTH TEXAS LUBRICATING OILS (Viscosity at 100° F. cold test 0 Tanker, f. o. b. Gulf oil terminals.)			
200 vis. No. 3 unfiltered pale	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
300 vis. No. 3 unfiltered pale	6.25 – 6.75	6.25 – 6.75	6.25 – 6.75
500 vis. No. 3½ unfiltered pale	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
750 vis. No. 4 unfiltered pale	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
1200 vis. No. 4 unfiltered pale	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
200 vis. No. 5-6 red oil	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
300 vis. No. 5-6 red oil	5.50 – 6.00	5.50 – 6.00	5.50 – 6.00
500 vis. No. 5-6 red oil	6.25 – 6.75	6.25 – 6.75	6.25 – 6.75
750 vis. No. 5-6 red oil	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
1200 vis. No. 5-6 red oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50

Note: Red oil prices shown above cover oils with blue cast; one or two refiners ask 0.5c to 1c per gal. higher for green cast red oils.

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Aug. 29	Aug. 22	Aug. 15
Gasoline, U. S. Motor, 53-55 Gravity	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
Gasoline, 400 e.p. blend 65 Octane No. and above	5.25 – 6.00	5.25 – 6.00	5.25 – 6.00
Gas oil, 30-34 per bbl.	$0.85 –$0.95	$0.85 –$0.95	$0.85 –$0.95
Diesel oil, 27 plus, per bbl.	$0.85 –$0.95	$0.85 –$0.95	$0.85 –$0.95
Bunker oil, 14-18 per bbl.	$0.60 –$0.72	$0.60 –$0.72	$0.60 –$0.72
Fuel oil, 14-18 per bbl.	$0.55 –$0.65	$0.55 –$0.65	$0.55 –$0.65
Kerosine, 38-40 w.w., 150 fire, per gal.	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25
Cased Goods			
Gasoline, U. S. Motor	$1.45 –$1.60	$1.45 –$1.60	$1.45 –$1.60
Gasoline, 400 e.p. blend	$1.55 –$1.70	$1.55 –$1.70	$1.55 –$1.70
Kerosine, 38-40 w.w., 150 fire	$1.25 –$1.35	$1.25 –$1.35	$1.25 –$1.35
Kerosine, prime white	$1.05 –$1.20	$1.05 –$1.20	$1.05 –$1.20

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling) to U. S. ports, cents per barrel

	Aug. 29			
	Crude &/or Fuel		Refined Oil &/or Spirits	
	Last Paid	Owners Ask	Last Paid	Owners Ask
Calif-U.K./Continent*	12/6	15/-20/	17/6	17/-18/
Gulf-U.K./Continent*	8/6	8/6-10/	9	9/-10/
Calif-N. Atlantic (not E. of N. Y.)	30c	40-45c	40c	40-45c
Gulf-N. Atlantic** (not E. of N. Y.)	14c	15-16c	14c	15-16c

*Continental ports in range between Bordeaux and Hamburg, both inclusive

**Venezuela loading same rate; Tampico, 2 to 3c per bbl. additional.

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THE EXTREME PRESSURE LUBRICANT

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Manufacturers of Specialty Lubricants

Tank Wagon, Service Station Markets for Gasoline and Kerosine

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

Tax column includes 1c federal tax, state gasoline tax, and city and county taxes as indicated in footnotes

These Prices in Effect Aug. 29, 1932, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

Standard Gasoline	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Atlantic City, N. J.	12.9	4	16.9	17.9	11.2
Newark, N. J.	12.2	4	16.2	17.2	8.5
Annapolis, Md.	13.5	5	18.5	19.5	10
Baltimore, Md.	12.9	5	17.9	18.9	7
Cumberland, Md.	14.4	5	19.4	20.4	11.7
Washington, D. C.	13.4	3	16.4	17.4	10
Danville, Va.	14.6	6	20.6	21.6	11.9
Norfolk, Va.	13	6	19	20	10.3
Petersburg, Va.	14.1	6	20.1	21.1	11.4
Richmond, Va.	13.4	6	19.4	20.4	10.7
Roanoke, Va.	14.6	6	20.6	21.6	11.9
Charleston, W. Va.	14.3	5	19.3	20.3	11.6
Parkersburg, W. Va.	12.9	5	17.9	18.9	10.2
Wheeling, W. Va.	13.9	5	18.9	19.9	11.2
Charlotte, N. C.	15.2	7	22.2	23.2	12.5
Hickory, N. C.	15.4	7	22.4	23.4	12.7
Mt. Airy, N. C.	15.5	7	22.5	23.5	12.8
Raleigh, N. C.	15	7	22	23	12.3
Salisbury, N. C.	15.3	7	22.3	23.3	12.6
Charleston, S. C.	13	7	20	21	10.3
Columbia, S. C.	14.9	7	21.9	21.9	12.2
Spartanburg, S. C.	15.2	7	22.2	23.2	12.5

Dealer Discount: gasoline, 2c off retail t.w. price, except Washington, D. C. and Baltimore, Md. where discount is 3c.

Kerosine Discount: 1c off t.w. price for 25 gals. or more, under contract, thru territory except New Jersey, effective June 17, 1931.

S. O. NEW YORK

Socony Gasoline

Greater New York City: Boroughs of Manhattan, Bronx, Queens & Kings	12	4	16	16	9.5
Borough of Richmond	12	4	16	16	9.5
Albany, N. Y.	11.5	4	15.5	16.5	9
Buffalo, N. Y.	12.5	4	16.5	17.5	9
Rochester, N. Y.	12.5	4	16.5	17.5	9
Syracuse, N. Y.	12.5	4	16.5	17.5	9.5
Boston, Mass.	11.5	4	15.5	16.5	8
Augusta, Me.	13	5	18	19	9.5
Manchester, N. H.	13	5	18	19	8
Burlington, Vt.	13.5	5	18.5	19.5	8.5
New Haven, Conn.	12	3	15	16	8
Providence, R. I.	11.5	3	14.5	15.5	8

Dealer discount: on gasoline 2c off posted t.w. price, except 3c in New York City.

ATLANTIC REFINING

Atlantic White Flash Gasoline

Pittsburgh, Pa.	13	4	17	18	10
Philadelphia, Pa.	12	4	16	17	10
Allentown, Pa.	12.5	4	16.5	17.5	10
Erie, Pa.	11	4	15	16	10
Scranton, Pa.	12.5	4	16.5	17.5	10
Altoona, Pa.	13	4	17	18	10
Dover, Del.	12.5	4	16.5	17.5	10
Wilmington, Del.	12.5	4	16.5	17.5	10
Boston, Mass.	11.5	4	15.5	16.5	8
Springfield, Mass.	12	4	16	17	8
Worcester, Mass.	12	4	16	17	8
Fall River, Mass.	12	4	16	17	8
Providence, R. I.	11.5	3	14.5	15.5	8
Hartford, Conn.	12	3	15	16	8
New Haven, Conn.	12	3	15	16	8
Atlantic City, N. J.	12.9	4	16.9	17.9	11.2
Camden, N. J.	12.3	4	16.3	17.3	10.6
Trenton, N. J.	12.7	4	16.7	17.7	11
Annapolis, Md.	13 5	5	18.5	19.5	10
Baltimore, Md.	12 9	5	17.9	18.9	7
Hagerstown, Md.	9	5	14	14	10.4
Richmond, Va.	13.4	6	19.4	20.4	10.7
Wilmington, N. C.	13.1	7	20.1	21.1	10.4
Brunswick, Ga.	12	7	19	20	*13.5
Jacksonville, Fla.	11	8	19	20	10.5

Dealer discount: on gasoline, "split dealers," 2c off posted t.w. price; to 100% dealers, 2.5c; to authorized dealers (under lease 1c per gal.), 2.5c off posted s.s. price. Commercial accounts, under contract for one year, are sold at a discount off the posted prices, with due consideration to competition.

*Georgia kerosine prices include 1c state tax.

Latest Changes in Tank Wagon Prices

Gasoline

S. O. New York—T.w. and s.s. up 1.5c, New York City, all boroughs, both to 16c, **Aug. 24.**

T.w. and s.s. up 1c, Boston, Manchester and Providence, **Aug. 24.**

T.w. and s.s. cut 1.5c, Albany and New Haven, and 1c, Augusta and Burlington, **Aug. 24.**

Atlantic Refining—Price readjustments through New England, Aug. 24. T.w. and s.s. up 1c; Boston and Providence; up ½c, Worcester; up 1.5c, Fall River; cut 1.5c, Hartford and New Haven. Springfield unchanged.

S. O. Kentucky—Crown and Kyso Green—t.w. and s.s. cut 2c, Augusta, **Aug. 19.**

Kyso Green gasoline established at Covington, at 17c both t.w. and s.s., **Aug. 22.**

S. O. Kentucky—Crown gasoline: t. w. and s. s. cut 1½c, Pensacola, both to 21c, **Aug. 27.**

Kyso Green: t. w. and s. s. cut 2½c, Pensacola, both to 18c, **Aug. 27.**

S. O. Indiana—Standard Red Crown s.s. cut 1c, through Michigan, **Aug. 27.**

Stanolind gasoline: s.s. cut 1.1c, Peoria, to 15c, **Aug. 20.**

S.s. cut ½c, Springfield, to 14.4c, **Aug. 20.**

S.s. cut 1c, Bartlesville, to 15c, **Aug. 5.**

S.s. cut 2.1c, Grand Forks, to 16c, **July 22.**

S.s. cut 2c, La Crosse, to 15c, **July 29.**

S. O. Louisiana—Standard gasoline t.w. and s.s. cut ½c, Chattanooga, both to 21c, **Aug. 24.**

T.w. and s.s. cut ½c, Alexandria, Lake Charles and Shreveport, and 1c, Little Rock, **Aug. 25.** New prices are: Alexandria and Lake Charles, 18c, Shreveport 16c, and Little Rock, 17.5c.

Continental Oil—T.w. and s.s. cut 2c, Denver and Pueblo, both cities to 16c and 19c respectively, **Aug. 20.**

Aviation Gasoline

Continental Oil—Correction: T.w. price at Salt Lake has been in error in past several issues. Price was 24c, including 5c tax, June 28; cut 2c, July 15, to 22c, and cut 1c, Aug. 6, to 21c.

Boise t.w. has been 25.5c, including 6c tax, since July 15.

T.w. cut 2c, Denver, to 19c, including 5c tax, **Aug. 20.**

Kerosine

S. O. Kentucky—Cut 1c, Tampa, to 9c t.w., **Aug. 19.**

Cut 1.5c, Jacksonville, to 11c t.w., **Aug. 26.**

S. O. Indiana—Cut 1c, Bartlesville, to 8c t.w., **Aug. 11.**

Cut 1.6c, Detroit, to 9c t.w., **Aug. 22.**

S. O. OHIO

	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Sohio X-70 Gasoline					
Ohio statewide	13	5	18	18.5	11.5
Darke, Greene, Montgomery and Miami counties:	11	5	16	16	11.5
Renown Green (Third Grade)					
Ohio statewide	..	5	..	16.5	11.5
Darke, Greene, Montgomery and Miami counties:	..	5	....	14	11.5

Dealer and commercial consumer discount: Sohio X-70 gasoline, 2c off t.w. price; Renown Green, 1.5c off s.s. price. Kerosine, 2.5c off t.w.

S. O. KENTUCKY

Crown Gasoline

Lexington, Ky.	12.5	6	18.5	18.5	10.5
Louisville, Ky.	12	6	18	18	10.5
Paducah, Ky.	13.5	6	19.5	19.5	8
Covington, Ky.	13	6	19	19	10.5
Jackson, Miss.	13	7	20	20	*10
Vicksburg, Miss.	13	7	20	20	*10.5
Birmingham, Ala.	13	*7	20	20	11
Mobile, Ala.	11.5	*8.5	20	20	8
Montgomery, Ala.	12	*8	20	20	13.5
Macon, Ga.	14	7	21	21	*13
Atlanta, Ga.	15	7	22	22	*11
Augusta, Ga.	12.5	7	19.5	19.5	*13.5
Savannah, Ga.	13	7	20	20	*12.5
Jacksonville, Fla.	12	8	20	20	11
Miami, Fla.	14	8	22	22	12.5
Tampa, Fla.	12	8	20	20	9
Pensacola, Fla.	12	*9	21	21	12.5

Kyso Green (Third Grade)

Lexington, Ky.	9.5	6	15.5	15.5	10.5
Louisville, Ky.	9.5	6	15.5	15.5	10.5
Paducah, Ky.	10.5	6	16.5	16.5	8
Covington, Ky.	11	6	17	17	10.5
Jackson, Miss.	11	7	18	18	*10
Vicksburg, Miss.	10	7	17	17	*10.5
Birmingham, Ala.	10.5	*7	17.5	17.5	11
Mobile, Ala.	9.5	*8.5	18	18	8
Montgomery, Ala.	13	*8	21	21	13.5
Atlanta, Ga.	11	7	18	18	*11
Augusta, Ga.	10.5	7	17.5	17.5	*13.5
Macon, Ga.	11	7	18	18	*13
Pensacola, Fla.	10	8	18	18	12.5

Dealer Discount: on Crown and Crown Ethyl gasolines, 3c off t.w. price thru territory; Kyso Green 2c.

***Taxes:** in the tax columns are included these city and county taxes at the following points: Birmingham, 1c city; Mobile, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia kerosine prices include 1c state tax. Montgomery kerosine price includes ½c city tax. Mississippi kerosine prices include 1c state tax.

S. O. INDIANA

Standard Red Crown Gasoline

Chicago, Ill.	13.1	4	17.1	17.1	10
Decatur, Ill.	13.6	4	17.6	17.6	10.1
E. St. Louis, Ill.	12.9	4	16.9	16.9	9.3
Joliet, Ill.	13.6	4	17.6	17.6	10.1
Peoria, Ill.	13.6	4	17.6	17.6	10.1
Quincy, Ill.	13.4	4	17.4	17.4	9.9
Springfield, Ill.	13.6	4	17.6	17.6	10.1
Indianapolis, Ind.	13.4	5	18.4	18.4	‡14.1
Evansville, Ind.	13.2	5	18.2	18.2	‡13.9
South Bend, Ind.	13.7	5	18.7	18.7	‡14.4
Detroit, Mich.	9.6	4	13.6	13.6	9
Grand Rapids, Mich.	13.5	4	17.5	17.5	10.3
Saginaw, Mich.	12.6	4	16.6	16.6	10.6
Marquette, Mich.	14.1	4	18.1	18.1	10.9
Green Bay, Wisc.	13.8	5	18.8	18.8	10.5
Madison, Wisc.	13.5	5	18.5	18.5	10.2
Milwaukee, Wisc.	12.3	5	17.3	17.3	10
La Crosse, Wisc.	14.4	5	19.4	19.4	11.1
Minneapolis, Minn.	14.4	4	18.4	17.4	11
Duluth, Minn.	14.7	4	18.7	18.7	11
Mankato, Minn.	14.3	4	18.3	18.3	9.7
Des Moines, Ia.	13.7	4	17.7	17.7	10.4
Davenport, Ia.	13.7	4	17.7	17.7	10.4
Sioux City, Ia.	13.3	4	17.3	17.3	10
Mason City, Ia.	13.7	4	17.7	17.7	10.4
St. Louis, Mo.	12.6	†4	16.6	16.6	9.4

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 2/25c; Nebraska, 3/50c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fees only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15; and 1/5c per gal. in lots over 25 bbls.

Tank Wagon, Service Station Markets for Gasoline and Kerosine

Tax column includes 1c federal tax, state gasoline tax, and city and county taxes as indicated in footnotes

These Prices in Effect Aug. 29, 1932, as Posted by Principal Marketing Companies

S. O. INDIANA (Cont'd)

	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W
Kansas City, Mo.	11.1	†4	15.1	15.1	8.7
St. Joseph, Mo.	12.7	†4	16.7	16.7	7.5
Fargo, N. D.	16.1	4	20.1	20.1	13
Grand Forks, N. D.	16.4	4	20.4	19.1	13.3
Minot, N. D.	16.1	4	20.1	20.1	12
Pierre, S. D.	14.2	5	19.2	19.2	11.5
Huron, S. D.	14.5	5	19.5	19.5	11.8
Wichita, Kans.	11.9	4	15.9	15.9	7
Bartlesville, Okla.	10.5	5	15.5	18	8

†Includes city tax of 1c.

Stanolind Gasoline (Third Grade)

Stanolind prices are 1.5c per gal. under Standard Red Crown, except at following points:

Chicago, Ill.	9.6	4	13.6	13.6	10
Decatur, Ill.	12.1	4	16.1	15	10.1
E. St. Louis, Ill.	11.4	4	15.4	12.1	9.3
Joliet, Ill.	10.6	4	14.6	15.6	10.1
Peoria, Ill.	12.1	4	16.1	15	10.1
Quincy, Ill.	8.5	4	12.5	12.5	9.9
Springfield, Ill.	12.1	4	16.1	14.4	10.1
Kansas City, Mo.	8	†4	12	12	8.7
St. Joseph, Mo.	8.1	†4	12.1	12.1	7.5
St. Louis, Mo.	9.6	†4	13.6	13.6	9.4
Detroit, Mich.	8.6	4	12.6	12.6	9
Grand Rapids, Mich.	11.7	4	15.7	15.7	10.3
Saginaw, Mich.	10.6	4	14.6	14.6	10.6
Mankato, Minn.	11.1	4	15.1	14.6	9.7
Minneapolis, Minn.	10.1	4	14.1	13	11
Evansville, Ind.	11.7	5	16.7	16	‡13.9
Indianapolis, Ind.	11.9	5	16.9	15.9	‡14.1
Davenport, Ia.	12.2	4	16.2	13	10.4
Des Moines, Ia.	9	4	13	12.9	10.4
Mason City, Ia.	12.2	4	16.2	13.6	10.4
Sioux City, Ia.	10	4	14	13	10
Green Bay, Wisc.	9.6	5	14.6	14.3	10.5
La Crosse, Wisc.	12.9	5	17.9	15	11.1
Madison, Wisc.	12	5	17	16.4	10.2
Milwaukee, Wisc.	10.3	5	15.3	14.3	10
Huron, S. D.	11.1	5	16.1	17.1	11.8
Fargo, N. D.	11	4	15	16.1	13
Grand Forks, N. D.	14.9	4	18.9	16	13.3
Bartlesville, Okla.	10	5	15	15	8

†Includes city tax of 1c. ‡Includes 4 cent state tax.

Q.D.A. (Effective May 4, 1931):

Discounts to resellers, except in Chicago, all quantities per month:

Off s.s. under 75,000 gals.: Ethyl: 3c, Red Crown 2.5c, Stanolind 1.5c. Off t.w. over 75,000 gals.: Ethyl 4c, Red Crown, 3.5c, Stanolind 2c. (See also last paragraph below).

Chicago reseller discounts: any quantity, Ethyl 4c, "regular" 3.5c, third grade 2c, by principal marketers. Discounts are off s.s. below 75,000 gals., and off t.w. above 75,000 gals.

Consumer discounts, off t.w., outside Chicago: 500 to 75,000 gals., Ethyl 3c, Red Crown 2.5c, Stanolind 1.5c. Over 75,000 gals., Ethyl 4c, Red Crown 3.5c, Stanolind 2c.

Chicago consumer discounts, off t.w.: over 500 gals., Ethyl 4c, regular 3.5c, third grade 2c.

Effective Nov. 4, 1931, to all buyers from t.w., 25 gals. and over, all gasolines, 1c off t.w. price. No change in total discount to contract customers.

Service Stations discount, 2c off on Ethyl and Red Crown, 1c off on Stanolind to contract buyers of 100 or more gals. in any one calendar month.

S. O. NEBRASKA

Red Crown Gasoline

Omaha, Neb.	11.9	5	16.9	17.9	10.25
McCook, Neb.	14	5	19	19	11.75
Norfolk, Neb.	13.75	5	18.75	19.75	10.75
North Platte, Neb.	14	5	19	19	11.5
Scottsbluff, Neb.	14	5	19	19	10

Dealer discount: on gasoline off normal s.s. prices: Ethyl 3c; Red Crown 2 5c.

S. O. LOUISIANA

Standard Gasoline

	Posted Retail T.W.	Tax	Total Posted Retail T.W.	Posted Retail S.S.	Kerosine T.W.
Little Rock, Ark.	10.5	7	17.5	17.5	9
Alexandria, La.	11	*7	18	18	*10
Baton Rouge, La.	11	6	17	17	*10
New Orleans, La.	11	*7	18	18	*11
Lake Charles, La.	11	*7	18	18	*10
Shreveport, La.	10	6	16	16	*10
Lafayette, La.	11	*7	18	18	*10
Bristol, Tenn.	14	8	22	22	12
Chattanooga, Tenn.	13	8	21	21	11.5
Knoxville, Tenn.	13.5	8	21.5	21.5	11.5
Memphis, Tenn.	10	8	18	18	9
Nashville, Tenn.	12	8	20	20	11

Blue-Gas (Third Grade)

	Tax		Total Posted Retail S.S.	Kerosine T.W.
Little Rock, Ark.	7	....	15	9
Alexandria, La.	*7	....	15	*10
Baton Rouge, La.	6	....	16	*10
New Orleans, La.	*7	....	16	*11
Lafayette, La.	*7	....	15	*10
Lake Charles, La.	*7	....	18	*10
Shreveport, La.	6	....	14	*10
Bristol, Tenn.	8	....	18	12
Chattanooga, Tenn.	8	....	20	11.5
Knoxville, Tenn.	8	....	20	11.5
Memphis, Tenn.	8	....	16	9
Nashville, Tenn.	8	....	18	11

Open dealer and commercial consumer discounts: on Standard gasoline, 2c per gal. off posted retail tank wagon price; 2c on kerosine; no discount on Blue-Gas.

Lease and agency discounts: Esso gasoline, 2.5c; Standard gasoline, 2c; Blue-Gas, 1c, off s.s. price, plus 1c per gal. rental.

*Lake Charles, Alexandria, New Orleans and Lafayette gasoline tax includes 5c state tax, 1c federal tax, and 1c parish tax. Louisiana kerosine prices include 1c state tax; New Orleans includes also 1c parish tax.

MAGNOLIA PETROLEUM

Maximum Mileage Gasoline

	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Muskogee, Okla.	9.5	5	14.5	17	8
Oklahoma City.	9.5	5	14.5	17	8
Tulsa, Okla.	10.5	5	15.5	18	8
Fort Smith, Ark.	12	†5	17	17	9
Little Rock, Ark.	12	7	19	19	11
Texarkana, Ark.	14.5	*5	19.5	19.5	11
Dallas, Tex.	10.5	5	15.5	18	7
El Paso, Tex.	10.5	5	15.5	19	12
Fort Worth, Tex.	11.5	5	16.5	18	9
Houston, Tex.	10.5	5	15.5	18	10
San Antonio, Tex.	10.5	5	15.5	18	9

Blue Gasoline

Muskogee, Okla.	8	5	13	14	8
Oklahoma City.	7	5	12	13	8
Tulsa, Okla.	9	5	14	15	8
Fort Smith, Ark.	7	†5	12	12	9
Little Rock, Ark.	9	7	16	16	11
Texarkana, Ark.	8	5	13	13	11
Dallas, Tex.	8	5	13	14	7
El Paso, Tex.	9	5	14	14	12
Fort Worth, Tex.	6	5	11	12	9
Houston, Tex.	10	5	15	16	10
San Antonio, Tex.	7	5	12	13	9

Dealer discounts: on Maximum Mileage gasoline, 2.5c off t.w. price to dealers, thru Arkansas On Blue gasoline, 1c per gal. off t.w. price to dealers thru territory. Arkansas kerosine prices are subject to 2c discount off t.w. price.

*In Texarkana, 4c Texas tax applies; outside Texarkana, 6c Arkansas tax applies.

†In Fort Smith, 4c Oklahoma tax applies; outside Fort Smith, 6c Arkansas tax applies.

CONTINENTAL OIL

Conoco Gasoline

Denver, Colo.	11	5	16	19	12.5
Pueblo, Colo.	11	5	16	19	12.5
Grand Junc., Colo.	15	5	20	23	14.5
Casper, Wyo.	12	5	17	20	10
Cheyenne, Wyo.	13	5	18	21	11.5
Butte, Mont.	14	6	20	23	17
Helena, Mont.	16	6	22	25	17
Salt Lake City, Utah	13	5	18	21	16
Boise, Ida.	16.5	6	22.5	25.5	18
Twin Falls, Ida.	16.5	6	22.5	25.5	18
Albuquerque, N. M.	12	6	18	21	14

S. O. CALIFORNIA

Standard Gasoline

San Francisco, Cal.	11	4	15	18	12.5
Los Angeles, Cal.	10.5	4	14.5	17.5	12.5
Fresno, Cal.	11.5	4	15.5	18.5	14
Phoenix, Ariz.	12.5	6	18.5	21.5	†20.5
Reno, Nev.	16	5	21	24	15.5
Portland, Ore.	12	5	17	20	13.5
Seattle, Wash.	12	6	18	21	13.5
Spokane, Wash.	15.5	6	21.5	24.5	18
Tacoma, Wash.	12	6	18	21	13.5

†Includes 5c state tax.

Discounts: On Standard and Standard Ethyl gasolines, to 100% dealers, 1c off t.w. price, beginning May 24 in Oregon and Washington, and June 27 in California, Nevada and Arizona.

CANADA

Prices of Imperial Oil Ltd.

(Per Imperial Gallon, which is 1.2 U. S. Gallons)

Imperial Three Star Gasoline	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Hamilton, Ont.	18	6	24	27	16.5
Toronto, Ont.	18	6	24	27	17.5
Brandon, Man.	23.5	7	30.5	34	20.5
Winnipeg, Man.	20.5	7	27.5	31	17.5
Regina, Sask.	24.5	6	30.5	34.5	21.5
Saskatoon, Sask.	26.5	6	32.5	36.5	23.5
Edmonton, Alta.	25.5	5	30.5	34	22.5
Calgary, Alta.	22	5	27	30.5	19
Vancouver, B. C.	21	7	28	32	24
Montreal, Que.	17	6	23	26.5	17.5
St. John, N. B.	20	7	27	31	22
Halifax, N. S.	20	6	26	30	22

Aviation Gasoline Prices

Following are tank wagon prices of aviation gasoline in principal marketing territories. Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

S. O. NEW JERSEY

Prices in Effect Aug. 29, 1932

Stanavo Aviation Gasoline	T.W.	Tax	Total T.W.
Newark, N. J.	16	1	17
Baltimore, Md.	16	5	21
Washington, D. C.	16.3	3	19.3

COLONIAL BEACON OIL CO.

Stanavo Aviation Gasoline			
New York City	16	3	19
Boston, Mass.	18	4	22

S. O. PENNSYLVANIA

Stanavo Aviation Gasoline			
Philadelphia, Pa.	15.5	4	19.5
Pittsburgh, Pa.	16.5	4	20.5
Altoona, Pa.	16.5	4	20.5
Harrisburg, Pa.	15.5	4	19.5

S. O. OHIO

Sohio Aviation Gasoline			
Thru Ohio	14	5	19

Discounts: to airports, 1 to 4c, based on quantity.

S. O. INDIANA

Stanavo Aviation Gasoline			
Chicago	16.1	4	20.1
Indianapolis, Ind.	16.4	5	21.4
Detroit, Mich.	17	4	21
Milwaukee, Wisc.	16.3	5	21.3
Minneapolis, Minn.	17.4	4	21.4
St. Louis, Mo.	15.5	3	18.5
Kansas City, Mo.	16.1	*4	20.1
Fargo, N. D.	19.1	4	23.1
Huron, S. D.	17.5	5	22.5
Wichita, Kan.	15	4	19

*Includes 1c city tax.

S. O. LOUISIANA

Stanavo Aviation Gasoline			
Little Rock, Ark.	17	7	24
New Orleans, La.	16	*7	23
Shreveport, La.	16	6	22
Chattanooga, Tenn.	19	8	27
Memphis, Tenn.	17	8	25

Dealer and commercial consumer discounts: 2c off posted retail t.w.

*Includes 1c parish tax.

CONTINENTAL OIL CO.

Denver, Colo.	14	5	19
Cheyenne, Wyo.	16	5	21
Helena, Mont.	19	6	25
Salt Lake City, Utah	16	5	21
Albuquerque, N. M.	16	6	22
Boise, Ida.	19.5	6	25.5

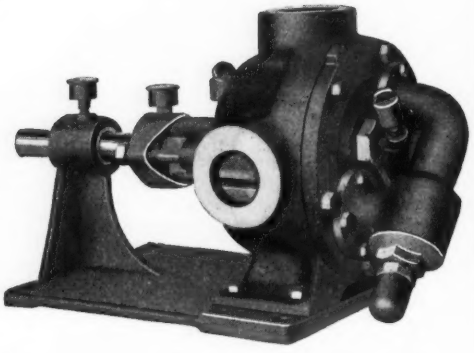
S. O. CALIFORNIA

Stanavo Aviation Gasoline			
Phoenix, Ariz.	15.5	6	21.5
Los Angeles, Cal.	13.5	4	17.5
San Francisco, Cal.	14	4	18
Reno, Nev.	19	5	24
Portland, Ore.	15	5	20
Seattle, Wash.	15	6	21
Spokane, Wash.	18.5	6	24.5

Note: Above prices are in tank trucks or iron barrels. For deliveries direct into airplane fuel tanks, 3c per gal. added beginning May 18 in California, May 24 in Oregon and Washington, and June 27 in Arizona and Nevada.

(Continued on page 76)

Another new Viking success



Sturdy, rugged pumps for all types of truck service . . . featuring the famous Viking "Two Moving Parts" Principle. Made in capacities of 20, 35, 50 and 90 G. P. M.

the Truck Mounting Unit

The industry wanted a new, more sturdy and reliable truck-mounted pump. Viking gave it to them several months ago. It proved an instant success . . because these new pumps were especially designed for truck mounting. Made very compact for attaching to running board or chassis. Only 18½ inches long overall to conserve space.

In order to avoid misalignment . . the most common trouble with this type of pump . . the bases have been made unusually substantial by casting pump pedestal integral with the base.

The new and exclusive Viking "RELIEF VALVE ON PUMP HEAD" is included as standard equipment, permitting greater flexibility, in that the pump may be left running when valves are closed to permit changes in line, etc.

Pumps are driven by conventional power take-off units or other similar means from truck transmission or drive shaft. Before you invest in truck-mounted pumps get the complete facts about the New Vikings. Write today for FREE Folder VS:402:32.

Viking Pump Company

Cedar Falls, Iowa

FROM ALL SHIPPING POINTS:

CRUDE OIL

Gasoline—Kerosene—Distillates—Furnace Oil
Painters and Cleaners Napthas—Natural Gasoline
Coastal Lubricating Oils—Bright Stocks—Neutral
Asphalt—Road Oil—Flux Oil—Petroleum Coke.

One Car or One Train—Wire, Write, Telephone

PRIMROSE PETROLEUM CO., INC.

(Incorporated under the Laws of the State of Texas, 1916)

DALLAS, TEXAS

Drive Against Substitution Pushed in Ohio Cities

AKRON, O., Aug. 26.—Antisubstitution ordinances sponsored by the Petroleum Industry committee of Ohio, have been enacted in Cincinnati and Youngstown and are pending in the councils of Columbus, Dayton, Canton, and Akron.

Opposition developed in a hearing on the proposed ordinance in Akron when a delegation of dealers headed by J. D. Allen, North Olmsted, O., president of the Independent Petroleum Retailers of Ohio, charged the ordinance was discriminatory in that it would place a stigma on unbranded goods by requiring larger lettering on containers for unbranded goods than on containers for branded goods, and that the dealer was not protected against substitution or "gypping" by the wholesaler. Amendments were suggested to overcome the objections.

The case for the ordinance was argued by John L. Marsh, Youngstown, secretary of the committee, and Hubert B. Fuller, Cleveland, its general counsel.

Road Oil Sales Increase 28 Per Cent in 1931

WASHINGTON—Sale of road oil in 1931 increased 28½ per cent over 1930 through greater use of low-cost bituminous types of surfacing, especially in the construction of secondary roads, the Bureau of Mines reports.

Petroleum refiners in the U. S. obtained $7,410,789 for 5,578,446 barrels of road oil in 1930, or an average of $1.328 a barrel. In 1931 $6,944,320 was received from 7,170,102 barrels, or an average of $0.969 a barrel.

The supply of road oil for consumption was augmented in 1931 by 2,450,192 barrels of other petroleum products, chiefly fuel oil transferred to road oil stocks, compared with 167,210 barrels similarly transferred in 1930.

Indiana-Illinois refineries led in road oil sales in 1931 with 2,250,744 barrels. California was second with 1,812,608 barrels, and East Coast third with 1,023,830 barrels. Average sales price per barrel in 1931 for these districts was Indiana-Illinois $0.935, California $0.837 and East Coast $1.273.

Thomas at Sioux City

TULSA—Effective Aug. 1, K. R. Thomas was made assistant division manager of the Marathon Oil Co.'s Sioux City marketing division and A. G. Towery was appointed office manager at the same place. Both were transferred from the general offices in Tulsa. S. C. Hyndman is manager of the Sioux City Division.

Crude Oil Prices (in Effect Aug. 29, 1932)

Crude prices for the whole year in OIL PRICE HANDBOOK published annually
(Prices are per barrel at the well; A.P.I. gravity).

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$1.72
(Effective Aug. 11, 1932)
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)..... 1.67
(Effective Aug. 11, 1932)
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.).....†1.52
(Effective Aug. 11, 1932)
Corning Oil in Buckeye Pipe Lines (Ohio).... 1.05
(Effective April 26, 1932)

†For Macksburg oil run previous to March 1, 1932, $1.42.

Posted by Other Companies

Tide Water Pipe Co., Ltd.:
Bradford-Allegnany district (Penna and N. Y.).....$2.02
(Effective April 25, 1932)

*The Pennzoil Co.:
Penna. Grade Oil in National Transit Lines*$1.97
(Effective April 25. 1932)

Ashland Refining Co.:
Somerset Oil in Ashland Lines (Kentucky)..$0.85
(Effective April 26, 1932)

Stoll Oil Refining Co.:
Stoll Pipe Line Oil (Kentucky).....$1.00
(Effective June 10, 1932)

*The Pennzoil Co. posts $1.97 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other districts range down to $1.92 per bbl. at wells.

MICHIGAN

(Posted by Pure Oil Co.)

Midland, Midland County (July 13, 1932)....$0.85

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.
Effective April 11, 1932

Wooster	$1.25	Princeton	$1.10
Lima	1.15	Illinois	1.10
Indiana	0.75	West Kentucky	1.05

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.
Ontario
Effective Nov. 3, 1931

Petrolia..... $1.90
Oil Springs..... $1.97

Turner Valley, Alta.:
(Effective April 21, 1932)

40-44.9	$1.56	Naphtha:	
45-49.9	2.18	†Clear	$3.32
50 and above	2.80	†Discolored	3.08

†Clear naphtha: 22 color, 10 lbs. vapor pressure, 90% recovery, end point, 410° A.P.I. Discolored naphtha: 90% recovery and 10 lbs. vapor pressure.

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Stanolind Crude Oil Purchasing Co.
(In Oklahoma, Kansas, North and North Central Texas)

(Effective April 11, 1932)

Below 29	$0.76	35-35.9	$0.90
29-29.9	0.78	36-36.9	0.92
30-30.9	0.80	37-37.9	0.94
31-31.9	0.82	38-38.9	0.96
32-32.9	0.84	39-39.9	0.98
33-33.9	0.86	40 and above	1.00
34-34.9	0.88		

On April 1, 1932, above prices were first posted by Continental Oil Co., followed the same day by Barnsdall, Bartex Pipe Line Co. (Phillips Pet.), Magnolia, Sinclair, Sun Oil, and The Texas Co. April 11, Humble Oil & Refining Co., Gulf Refining Co. and Carter Oil Co. met Carter's schedule having these five lower grades: below 25, $0.68; 25-25.9, $0.70; 26-26.9, $0.72; 27-27.9, $0.74; 28-28.9, $0.76.

Humble's prices are in Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Currie and Moran, Tex.

East Texas

Magnolia, Sinclair and Texas Co. post $0.98 effective April 1, 1932.

Magnolia Petroleum Co.
(In Oklahoma, North, North Central and Central Texas)

(Including in North and North Central Texas: Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden; in Central Texas: Mexia, Wortham, Corsicana Light and Panola county).

Effective April 1, 1932

Below 28	$0.67	28-28.9	$0.76

Rest of schedule same as Stanolind, which see above.

Lytton Springs, Tex.....$0.94
Corsicana heavy..... 0.64

PANHANDLE TEXAS

Humble Oil & Refining Co.
Effective April 11, 1932

Hutchinson-Carson Counties		Gray County	
Below 35	$ .66		$0.76
35-35.9	.68		.78
36-36.9	.70		.80
37-37.9	.72		.82
38-38.9	.74		.84
39-39.9	.76		.86
40 and above	.78		.88

April 1, 1932 Magnolia and The Texas Co. first posted above prices.

WEST TEXAS and NEW MEXICO

Humble Oil & Refining Co.
Effective April 11, 1932

Pecos, Winkler, Crane, Upton, Crockett, Ector, Howard and Glasscock Counties, Tex., and Lea county, N. Mex.....$0.65

April 1, 1932 Magnolia and The Texas Co. first posted above prices; Magnolia's prices applying in Winkler, Crane, Upton, Howard, Glasscock and Mitchell; Texas Co. posts in Crane, Upton, Winkler and Lea.

SOUTH and SOUTHWEST TEXAS
(Posted by Humble Oil & Refining Co.)
Effective April 11, 1932

Mirando	$0.80	Salt Flat	$0.75
Darst Creek	0.75	Pettus, Bee Cty.	1.00

(Posted by Magnolia Petroleum Co.)
Effective April 1, 1932

Mirando	$0.90	Darst Creek	$0.75
Luling	0.64		

NORTH LOUISIANA—ARKANSAS FIELDS

‡Prices of Standard Oil Co. of Louisiana
Caddo, Homer, Haynesville, Bull Bayou, El Dorado Crichton, De Soto, Sabine, Sarepta and Carterville
Effective April 11, 1932

Below 25	$0.68	33-33.9	$0.86
25-25.9	.70	34-34.9	.88
26-26.9	.72	35-35.9	.90
27-27.9	.74	36-36.9	.92
28-28.9	.76	37-37.9	.94
29-29.9	.78	38-38.9	.96
30-30.9	.80	39-39.9	.98
31-31.9	.82	40 and above	1.00
32-32.9	.84		

Smackover.....$0.65
*Urania, La..... 0.60
†Stephens, Ark.:
Below 29.....$0.61
29 and above..... 0.64

*Urania posted by Louisiana Oil Refining Corp
†Stephens posted by Atlantic Oil Producing Co and Louisiana Oil Refg. Corp.

‡April 1, 1932, The Texas Co. first advanced North Louisiana crude to prices shown above.

April 6, Magnolia advanced Pine Island, Haynesville, Bull Bayou, Cotton Valley, La., El Dorado light, and Rainbow, Ark. to above prices.

*GULF COASTAL

Posted by Humble Oil & Refining Co.
Effective April 11, 1932

Below 25	$0.80	33-33.9	$0.89
25-25.9	.81	34-34.9	.90
26-26.9	.82	35-35.9	.91
27-27.9	.83	36-36.9	.92
28-28.9	.84	37-37.9	.94
29-29.9	.85	38-38.9	.96
30-30.9	.86	39-39.9	.98
31-31.9	.87	40 and above	1.00
32-32.9	.88		

Refugio heavy.....$0.80

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Rabbs Ridge, Raccoon Bend, Refugio light, Sour Lake, Spindletop, Sugarland and West Columbia.

April 1, 1932 The Texas Co. first posted above prices.

Alabama Oil Men Meet Sept. 7

BIRMINGHAM, Ala. — The next meeting of the Alabama Oil Men's Association will be held at the Jefferson Davis Hotel, Montgomery, Ala., Sept. 7, according to S. C. Klein, executive secretary.

Superheater Elects Officers

NEW YORK—M. Schiller, vice-president of The Superheater Co., manufacturer of Elesco steam superheaters, has been elected treasurer of the company, succeeding W. F. Jetter, resigned. F. J. Dolan has been elected assistant secretary and assistant treasurer.

Thomas F. Morris is now treasurer and assistant secretary of The Superheater Co., Ltd., of Montreal, succeeding Mr. Jetter.

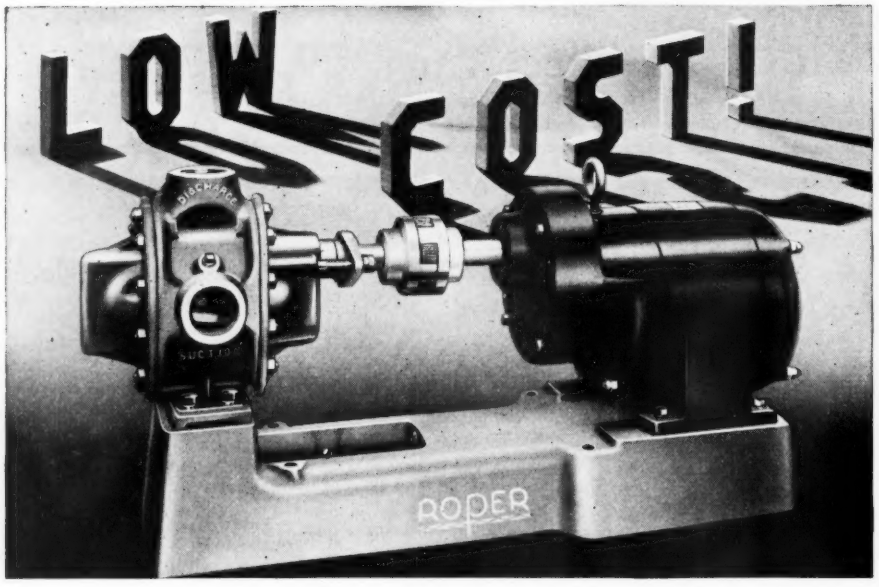
"Free Wheeling" For Trains

CLEVELAND—"Free wheeling" has been applied to a diesel-electric locomotive in England and fuel consumption reduced 50 per cent. Four similar locomotives are to be put in service by the Baroda State Railway, India.

The English train, the Department of Commerce reports, was run on the Newcastle-on-Tyne branch of the London & Northeastern Railway Co. The locomotive averages more than 1000 miles a week and oil consumption is 200 gallons of diesel oil weekly. Although the train has an actual running time of eight hours daily, the engine through "free wheeling" is in use only four hours daily.

S. O. Kentucky Sells Essolube

CLEVELAND, Aug. 25.—Standard Oil Co. of Kentucky will market Essolube, the new motor oil produced by Standard Oil Co. of New Jersey with its hydrogenation process. This was announced in newspaper advertisements at the time of the announcement that the new product was available at company and dealer stations of Colonial Beacon Oil Co., and the Standards of New Jersey, Pennsylvania and Louisiana.



DIRECT DRIVE PUMPS

With Proved Performance Records

For years, Roper *Direct Drive* Pumps have proved their worth, handling a wide variety of liquids. They were practical and efficient at the start and long experience has steadily raised that standard. Roper *Direct Drive* Pumps are years beyond experiment.

Compact, sturdy, dependable construction insures long life and trouble-free service. The elimination of outside reduction gears, gear guards, clutches and outboard bearings has so reduced the size that the required installation space has been decreased to a minimum. Roper units are also cleaner and quieter in operation. For handling thick, heavy, viscous liquids requiring slow operating speeds, there is the double reduction motor capable of reducing speeds to less than 50 R.P.M.

No matter whether it be gasoline, light oils or grease, there is a Roper that will do your job. Equipment available with either standard or geared head motors. Capacities from 1 to 300 G.P.M. Nowhere can you get such high-grade equipment at such low cost.

ROPER

Write for complete details

GEO. D. ROPER CORP., 470 Blackhawk Ave., Rockford, Illinois

DISTRIBUTORS—DEALERS

You Can't Beat This Pair!

EN-AR-CO MOTOR OIL

WHITE ROSE GASOLINE

WHITE ROSE GASOLINE

Costs No More Than Regular Gasoline

EN-AR-CO MOTOR OIL

Paraffine Base *Wear Proof*

Write for Contract Details

THE NATIONAL REFINING COMPANY, *Cleveland, Ohio*

New Stations Building

Note: Material used in this column is taken principally from newspapers. NATIONAL PETROLEUM NEWS assumes no responsibility for its accuracy. Headquarters of companies and addresses of individuals are given wherever possible.

The list as published from week to week cannot be looked upon as indicative of the relative extent to which stations are being built in various parts of the country.

Service Stations

Minneapolis, Minn.—Mrs. Mary Howell.

East Cleveland, O.—Mary E. Murphy, 16160 Euclid Ave.

Marquette, Kan.—Phillips Petroleum Co., Bartlesville, Okla.

Kewanee, Ill.—Continental Oil Co., Ponca City, Okla.

Rolla, Mo.—W. R. Brown.

New London, Wis.—Fred Schultz, Appleton, Wis.

Marinette, Wis.—Zieman Oil Co., Menominee, Wis.

Flora, Ind.—Standard Oil Co. of Indiana, 910 S. Michigan Ave., Chicago.

Camden, Ind.—The Texas Co., 135 E. 42nd St., New York, N. Y.

Fort Wayne, Ind.—Gulf Refining Co., Gulf Bldg., Pittsburgh, Pa.

Lafayette, Ind.—The Texas Co., 135 E. 42nd St., New York, N. Y.; Standard Oil Co. of Indiana, 910 S. Michigan Ave., Chicago.

Birmingham, Ala.—C. O. Stabler, 2525 Highland Ave.

Cliffside, N. J.—F. Moronski, 201 De Sota Place.

Brooklyn, N. Y.—Marine Building Corp., 1711 Neptune Ave.; R. Epstein, 271 Madison Ave., New York; and S. Nehemiah, 53 Henry St. Brooklyn.

Jamaica, N. Y.—M. Kivovitz, 671 Crown St., Brooklyn, N. Y.

Hickory, N. C.—First National Bank.

Baltimore, Md.—Forrest E. King, 2329 Harford Rd.

Madison, Wis.—H. D. Clarke, 324 E. Wilson St.

Baraboo, Wis.—W. T. Marriott.

Rice Lake, Wis.—Louis J. Stodola.

Marinette, Wis.—Henry F. Siemann, Siemann Oil Co.

Cynthiana, Ky.—Billy Brown.

Moline, Ill.—Mason Carruthers; and W. L. Mitchell.

Algona, Ia.—Frank Vera.

Madison, Wis.—Estate of K. Keyes.

Argyle, Minn.—Daniel Bergeron.

Ottawa, Kan.—Angus Wheeler.

Lawrence, Kan.—Fritz Meyn.

Sherwood, N. D.—Consumers Oil Co.

La Crosse, Wis.—J. E. Monegan, 222 S. 10th St.

Dubuque, Ia.—Mettel Land & Security Co., 1220 Iowa St.

Grand Forks, N. D.—Martin Erickson.

Danville, Ky.—O. A. Denton.

Kokomo, Ind—Lincoln Oil Refining Co., Robinson, Ill.

Dayton, O.—Producers Oil Co. of Indiana.

De Pere, Wis.—William Fisher.

Chester, Ill.—Leo Roth.

Algona, Ia.—Shell Petroleum Corp., Shell Bldg., St. Louis, Mo.

Sioux Falls, S. D.—W. L. Benson.

Madison, S. D.—White Eagle Oil Co., Kansas City, Mo.

St. Paul, Minn.—Prior Service Co.

Fairbault, Minn.—Webb Oil Co.

Crude Oil Prices (in Effect Aug. 29, 1932)

(Prices are per barrel at the well; A. P. I. Gravity)

(Crude Oil Prices for the whole year in OIL PRICE HANDBOOK published annually)

ROCKY MOUNTAIN FIELDS
(Posted by Midwest Refining Co.)

Effective April 11, 1932

Salt Creek, Wyo.:

Below 29°	$0.76	32-32.9	$0.84
29-29.9	0.78	33-33.9	0.86
30-30.6	0.80	34-34.9	0.88
31-31.9	0.82	35-35.9	0.90
36-36.9	$0.92	39-39.9	$0.98
37-37.9	0.94	40 and above	1.00
38-38.9	0.96		

Salt Creek prices met by The Texas Co. April 11.

Effective April 11, 1932

Cat Creek, Mont.	$1 20
Hogback, N. Mex.	0.80
Hobbs, N. Mex.	0.65

(Posted by Ohio Oil Co.)

Effective June 1, 1932

Elk Basin, Wyo.	$1.10
Grass Creek Light	1.10
Rock Creek	0.90

Effective April 11, 1932

Big Muddy	$0.98
Lance Creek	1.15
Sunburst, Mont.	1.05

CALIFORNIA CRUDE
Standard Oil Co. of California

Effective June 26, 1932

Gravity	Signal Hill	Seal Beach Alamitos Heights Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canon	Elwood Terrace	Torrance Richfield	Whittier La Habra	Montebello	Athens Rosecrans Dominguez	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Ventura Avenue (Associated Oil Co.)	Santa Paula (Union Oil Co.)	Orcutt (Union Oil Co.)
14-19.9	$0.65	$0.65	$0.65	$0.65	$0.65	....	$0.65	$0.65	$0.65	....	$0.65	....	$0.55	$0.55	$0.55	$0.55	$0.55	....	$0.72	$0.65	$0.55
20-20.9	.69	.69	.71	.69	.69	....	.69	.68	.65	....	.65	....	....	.59	.59	.59	.57	....	.77	.69	.59
21-21.9	.74	.74	.77	.74	.74	....	.74	.72	.67	....	.66	....	....	.63	.63	.62	.60	....	.82	.72	.63
22-22.9	.79	.79	.82	.78	.79	....	.79	.77	.70	....	.70	....	....	.69	.69	.65	.63	....	.86	.75	.69
23-23.9	.84	.84	.87	.82	.84	....	.84	.83	.73	....	.76	....	....	.75	.75	.68	.66	....	.90	.78	.75
24-24.9	.89	.89	.92	.86	.89	F.o.b.	.89	.89	.76	$0.89	.81	$0.73	....	.81	.81	.72	.69	....	.93	.81	.81
25-25.9	.93	.93	....	.91	.93	Ship	.93	....	.80	.93	.86	.79	....	.87	.87	.75	.72	....	.96	.84	.82
26-26.9	.97	.97	....	.96	.97	....	....	....	....	.97	.90	.84	....	.92	.91	....	....	....	.99	.87	.97
27-27.9	1.00	....	....		1.00	....	....	....	....	1.00	.94	.89	....	.97	.94	....	....	....	1.02	.90	....
28-28.9	1.03	....	....	Subject to field	1.03	....	....	....	....	1.03	.98	.94	....	1.02	.99	....	....	....	....	.93	....
29-29.9	1.06	....	....	gathering charge	....	....	....	....	....	1.06	1.02	.98	....	1.07	1.02	....	....	....	....	.96	....
30-30.9	1.09	....	....	of 5c per barrel.	....	....	....	....	....	1.09	1.05	1.02	....	1.12	1.05	....	....	....	....	.99	....
31-31.9	....	....	....		....	....	....	....	....	1.12	....	1.06	....	....	....	....	....	....	....	....	....
32-32.9	....	....	....		....	....	....	....	....	1.15	....	1.10	....	....	....	....	....	....	....	....	....
33-33.9	....	....	....		....	$1.04	....	....	....	....	....	1.14	....	....	....	....	....	$0.91	....	....	....
34-34.9	....	....	....		....	1.10	....	....	....	....	....	1.18	....	....	....	....	....	.93	....	....	....
35-35.9	....	....	....		....	1.16	....	....	....	....	....	1.22	....	....	....	....	....	.95	....	....	....
36-36.9	....	....	....		....	1.22	....	....	....	....	....	....	....	....	....	....	....	.97	....	....	....
37-37.9	....	....	....		....	1.28	....	....	....	....	....	....	....	....	....	....	....	.99	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.01	....	....	....
39 and above	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.03	....	....	....

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	Aug. 29	Aug. 22
Soda Ash Light 58% bags, cwt.	$1.15-1.38	$1.15-1.38
Silicate of Soda 60 deg. drums, cwt.	$1.75-1.90	$1.75-1.90
Silicate of Soda 40 deg. tank cars, cwt.	$0.70	$0.70
Silicate of Soda 40 deg. drums, cwt.	$1.00	$1.00
Sal Soda wks.	$0.90-1.00	$0.90-1.00
Caustic Soda 76% solid, cwt.	$2.50	$2.50
Sulfuric Acid 60 deg. tank cars, f. o. b. shipping point per ton	$11.00-12.50	$11.00-12.50
Sulfur, flowers of, cwt.	$3.10-4.05	$3.10-4.05
Liquid Chlorine, tank cars, wks., lb.	1.75	1.75

Compounder's Supplies

	Aug. 29	Aug. 22
Vegetable Oils		
Linseed carloads, spot, lb.	5.30	5.30
Tanks, spot	4.70	4.70
Soya Bean, Tank, coast, lb.	3.75-4.00	3.75-4.00
Oleic Acid		
Distilled, tanks, lb.	5.75	5.75
Distilled, bbls., lb.	7.25-7.375	7.25-7.375
Saponified, tanks, lb.	6.00	6.00
Saponified, bbls., lb.	6.75-7.00	6.75-7.00
Lard Oils		
Prime Winter Strained, lb.	8.75	8.75
Extra Winter Strained, lb.	6.75	6.75
Extra, lb.	6.50	6.50
Extra No. 1, lb.	6.00	6.00
No. 1, lb.	5.75	5.75
No. 2, lb.	5.50	5.50
Tallow oil, lb.	5.75	5.75
Neatsfood Oil		
Pure, bbls., lb.	7.75-8.00	7.75-8.00
Extra, bbls., lb.	6.50	6.50
No. 1 bbls., lb.	6.25	6.25
Cold Pressed, lb.	11.25	11.25
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	30–31	30–31
Light Pressed, tank cars, N. Y., gal.	25–26	25–26
Yellow bleached, gal.	28–29	28–29
Whale, extra winter bleached, gal.	57–58	57–58
Naval Stores		
Steam distilled turpentine, N. Y., gal.	43	43
Steam, distilled turpentine, Savannah, gal.	41	41
Gum turpentine, N. Y., gal.	43	43
Gum turpentine, f.o.b. cars Savannah, gal.	38	38
Wood Rosin, N. Y., bbl.	$4.78	$4.78
Wood Rosin F, Savn'h, bbl.	$4.58	$4.58
Gum Rosin B, N. Y., bbl.	$3.25	$3.25
Gum Rosin B, f. o. b. cars Savannah, bbl.	$2.60	$2.60
Rosin oil, pure, gal.	47–49	47–49
Rosin, oil, compounded, gal.	41–43	41–43
Pine Tar		
Kiln burnt	$9.00-10.00	$9.00-10.00
Retort, bbl.	$10.00-11.00	$10.00-11.00
Alcohol		
Denatured Formula 5, in tanks per gal.	39.6	39.6

The New
MID-WEST
QUICK CHANGE
SIGN STAND
for gasoline price cards and other advertising
Outside dimensions 58½" high, 28 ⅜" wide, weight 25 Lbs.
Take sign insert 28" x 44".
Black enamel finish—baked on.
Patent No. 1,505,046

QUICK CHANGE SIGN STAND

This stand can serve many purposes, each side may be different. Special attention can be called to various oils for seasonal use, and other things sold at service stations, such as tires, or announcements which it might be advisable to make.

It will be handy to have a few extra stands about for immediate use.

Sample for $2.00—Special prices in quantities.

SIGN DEPARTMENT
MID-WEST FORGING CO.
38 S. Dearborn St.
Chicago

Send for a descriptive circular

PETROLEUM PRODUCTS

From All Fields

Carloads, Tank Cars, and Cargoes
For Domestic or Export

GASOLINE KEROSENE NAPHTHA
CRUDE OIL FUEL OIL GAS OIL FURNACE OIL
CYLINDER STOCKS
UNFILTERED AND FILTERED
BRIGHT STOCKS
COLD SETTLED AND CENTRIFUGED
PALE—RED OILS
WAX—PETROLATUM
TECHNICAL WHITE OILS
WHITE MINERAL OILS

For 35 years of reliability, service and integrity—this Company enjoys an International Reputation

JAMES B. BERRY SONS' CO., INC.

General Office: **Oil City, Pa.**

District Offices at

New York. Philadelphia, Boston, Chicago
London—Hamburg

Cable Address—JASBER Oil City *All Codes*

Bulk Shipment of Alcohol Is Prohibited

WASHINGTON—Shipments of completely denatured alcohol cannot be made in tank cars or in tank trucks, and this type of alcohol sold for any purpose in containers or more than five gallons capacity must be in serially numbered denaturers' packages with seal intact.

These are new features of regulations handed down recently by the commissioner of industrial alcohol on the handling of completely denatured alcohol, as they apply to the oil industry. The ruling also reiterates significant points on handling methods that have been in force some years.

Under the new features of the regulations all shipments to oil companies will be drums or packages, and not in tank cars. Deliveries from bulk plant warehouses to service stations, or other retailers, will be in drums or packages also, and not in tank trucks.

The other new feature concerns the oil industry in methods of handling to retail outlets. Deliveries in containers of more than five gallons must be in the serially numbered denaturers' packages bearing all the marks required, including the embossed symbol and serial number, and the seal must be intact.

In packaging completely denatured alcohol at the bulk plant in 1 to 5-gallon containers the marketer may break the seal on the drum. Regulations that have been in force for some time require the marking of 5-gallon containers with the words "completely denatured alcohol" in letters one-inch high, and of readable type on 1-gallon containers. These packages also bear the formula number.

The marketer must deliver drums with seal intact to retail outlets, and it is illegal to deliver a partially emptied drum after a few gallons have been drawn off at the bluk plant to fill smaller size containers.

Other regulations listed in the recent ruling concerning the handling of completely denatured alcohol that have been in force for some time. These regulations follow:

That dealers (oil companies) will not be required to obtain a permit, but all persons storing or using 11 barrels (not exceeding 550 gallons) over a 30-day period must keep records of receipt, storage and disposition of such alcohol.

Keeping records of sales at the service station is not required, unless the 11 drum limit is passed. These records will be kept at the warehouse from which distribution is made. A suggested method is to list receipt of a shipment with the symbol and serial number of each drum down the left hand column. As these drums are de-

livered to a station the location of the station, and the date can be listed opposite the serial number of each drum. This will require careful handling so that drums bearing a given serial number are delivered to the correct service station. These records are open during regular business hours to government inspectors.

Where sales are made in quantities of five gallons or less such records will be required to show only the total quantity disposed of daily.

Another regulation concerns the poison label. On packages of five gallons or less, on old formula No. 5 manufactured before Jan. 1, 1930, the poison label, with skull and cross bones is required. The new, or revised formula of 1931, does not require the poison label, but must be marked "completely denatured alcohol" in plain legible letters, red on white, and on the same label this statement, "completely denatured alcohol. Contains ingredients which render the product wholly unfit for beverage purposes. If taken internally will cause serious consequences to health."

The background of this regulation is that prior to 1931 the government put poison in denatured alcohol to make it unfit as a beverage, consequently the poison label is required. Since Jan. 1, 1931, denatured alcohol has been made unfit for beverage purposes by addition of some substance which gives the alcohol a decidedly unpleasant flavor.

"The word 'pure' qualifying denatured alcohol will not be permitted on any label. The name and address of the dealer must be printed on such label but no other extraneous matter will be permitted thereon without the express authority of the commissioner," is another regulation.

The word "alcohol" cannot be used in advertising or signs without the qualifying words such as "denatured" or "completely denatured."

Any marks or brands required to be placed on packages of denatured alcohol must not be destroyed or altered until all the alcohol has been removed. When the container is empty all marks and brands must be completely obliterated at once, except the symbol indicating the name of the denaturer and the serial number required to be embossed on packages.

Transfer of completely denatured alcohol from the original package is prohibited except to packages of five-gallon capacity or less.

Dealers Protest Margin Cuts

NEW YORK, Aug. 25. — Because dealer margins on gasoline have been cut in New Jersey, at least one dealer group is considering appealing to the courts. The exact nature of the contemplated proceeding has not been announced. Protest meetings of dealers have been held at several New Jersey points.

Service ... Price ... Quality

PENNSYLVANIA and MID-CONTINENT OILS
In Bulk Storage at Los Angeles Harbor and Oakland, Calif.

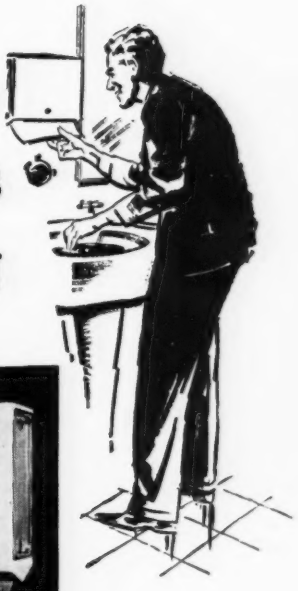
Everything in Petroleum Products

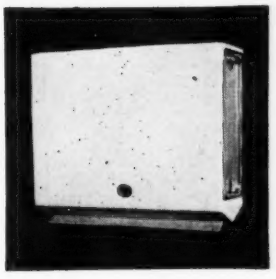
Direct Shipments from Refineries in the Pennsylvania and Mid-Continent Oil Fields
Write ... Wire ... Telephone Nearest Office

REFINERS MARKETING CO., Ltd.
555 So. Flower Street, Los Angeles, Calif. Phone Michigan 3424
National Transit Building, Oil City, Pa. Phone Oil City 252

Onliwon Sanitary Washroom Service

Make your washrooms STAR SALESMEN





Tourists naturally flock to the stations that are spick and span—Clean washrooms with plenty of fresh towels attract customers as nothing else will. Be sure that *your* washrooms are equipped with sanitary towels that dry the hands and face quickly and thoroughly and can be used but once. A. P. W. Onliwon Towels are made of new, clean stock and served from hygienic cabinets to avoid waste and filching. They're double-folded for extra strength and absorbency; one will do the work of several inferior towels. Install this health-protecting washroom service along with A. P. W. Onliwon Toilet Tissue—then watch your profitable gallonage roll up.

Pioneers for Cleanliness since 1877

A.P.W.
TRADE-MARK REGISTERED IN U. S. PATENT OFFICE

A. P. W. PAPER CO., Albany, N. Y. NPN-8-32

We want to test Onliwon Towels and Tissue for use in our service stations. Please send us, free, a generous sample supply.

Name.....*Address*.....

City.....*State*.....

Transactions in Oil Shares on New York Stock Exchange

1931 High	1931 Low	1932 High	1932 Low	Listed Shares	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Week Ended Aug. 27 Sales Shares	High	Low	Last	Week's Change
23	11¼	20½	12	922,075	N.P.	Amerada Corp.	50cQ	July 30, 32	3,600	20½	19	20½	+ 1¾
12¾	1¼	4	⅛	209,180	N.P.	American Republics Corp.	....	.....	.....	.....	.....	.....	.....
31	8¾	16½	6¾	2,240,000	$25	Associated Oil Co.	25c	July 12, 32	20	15	14⅞	15	— 1½
23⅜	8⅜	20	8⅜	2,696,652	25	Atlantic Refining Co.	25cQ	June 15, 32	93,000	*20	17½	19¼	+ 2
14½	4	6¾	3⅜	2,257,740	5	Barnsdall Corp.	....	May 11, 31	25,700	6½	5¾	6¼	+ ¼
25	8	..	..	2,060,966	25	California Petroleum Corp.	....	Jan. 1, 29	.....	....	....	....	....
10½	7½	12	6¼	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	.....	.....	.....	.....	.....
15⅝	4⅛	9	4	14,218,835	N.P.	Consolidated Oil Corp.	....	.....	68,100	8¾	7⅞	8⅛	+ ⅛
103	64	100¼	79	141,294	$100	do pfd.	$2	Aug. 15, 32	200	*100¼	100¼	100¼	+ ¼
12	5	8¼	3⅜	4,722,301	N.P.	Continental Oil Co.	....	.....	68,100	*8¼	6⅞	8¼	+ 1⅛
47	9⅝	15½	4¾	413,333	N.P.	General Asphalt Co.	25cQ	June 15, 32	20,600	12	9⅞	11	+ ½
68½	15¼	24⅞	8¾	96,116	$100	Houston Oil Co.	....	.....	33,500	*24⅞	19½	24⅜	+ 5
14¼	3	5⅛	1⅝	677,019	25	do new.	....	.....	20,600	5	3⅞	4¾	+ ⅞
4⅝	1⅜	2	1	556,546	10	Indian Refining Co.	....	Dec. 15, 20	1,300	*2	1⅜	1¾	+ ⅛
4½	1	2	½	1,309,036	N.P.	Louisiana Oil Ref'g. Corp.	....	.....	5,100	2	1¼	2	+ ⅛
55	20	18	9½	40,000	$100	do pfd.	$1.62½Q	May 16, 32	50	15	15	15	+ 5½
3¾	½	1½	⅝	330,000	N.P.	Maracaibo Oil Exploration Co.	....	.....	1,000	1½	1⅛	1½	+ ⅜
171	50⅞	60	50	459,428	$100	Mexican Petroleum Co.	....	Apr. 20, 31	.....	....	....	....	....
100	100	105	100	120,000	100	do pfd.	$2Q	July 20, 32	.....	....	....	....	....
16¾	5	7⅞	4	1,857,912	N.P.	Mid-Continent Petroleum Corp.	....	Feb. 16, 31	12,400	7¾	7	7⅝	+ ⅜
19½	5⅛	11	5	6,548,052	N.P.	Ohio Oil Co.	20cQ	June 15, 32	36,100	10⅞	9⅛	10¼	+ ¾
35⅛	20	34	6	1,000,000	$5	Pan American Pet. & Transp. Co.	25cQ	July 20, 32	200	12½	12	12	+ 2⅛
36½	18	34⅞	7⅛	2,474,131	5	do B non-voting.	25cQ	July 20, 32	500	13	12½	13	+ 1½
4¾	⅝	1¼	½	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	.....	700	1¼	1⅛	1⅛	+ ⅛
20	5	10	3½	25,666	$100	do pfd.	....	July 2, 23	30	9½	9	9½	+ ½
10⅞	2⅞	7¼	3	2,396,084	N.P.	Petroleum Corp. of America.	....	June 1, 31	25,900	*7¼	6	6⅞	+ ⅜
16⅝	4	7⅞	2	4,421,910	N.P.	Phillips Petroleum Co.	....	Jan. 2, 31	33,200	7¾	6¾	7⅜	+ ½
1½	⅛	½	⅛	1,184,917	$25	Pierce Oil Corp.	....	.....	4,200	½	⅜	½	+ ⅛
23¾	3½	9	3½	150,000	100	do pfd.	....	Feb. 1, 22	300	8⅜	8¼	8⅜	+ ½
3¾	⅞	1⅜	½	2,500,000	N.P.	Pierce Petroleum Corp.	....	Feb. 16, 31	5,200	1¼	1	1¼	+ ¼
20⅛	4½	9	3½	2,441,432	$25	Prairie Oil & Gas Co.	....	Mar. 31, 31	900	*9	8½	9	+ ¼
26½	5⅞	12⅛	5¾	4,050,000	25	Prairie Pipe Line Co.	....	July 1, 31	900	12	11½	12	+ ⅜
6	1	1⅜	⅛	749,017	50	Producers & Refiners Corp.	....	Sept. 15, 23	500	¾	⅝	⅝	0
16	3	9¾	1	56,907	50	do pfd.	....	May 4, 25	.....	....	....	....	....
11⅞	3¼	6½	2⅞	3,038,370	25	Pure Oil Co.	....	Sept. 1, 30	22,300	*6½	5¼	6⅜	+ 1⅛
101⅞	53½	80	50	130,000	100	do 8% pfd.	$2Q	July 1, 32	550	*80	75	75	— 3
6¾	¾	1⅜	⅛	2,126,250	N.P.	Richfield Oil Co. (California).	....	Sept. 1, 30	19,700	1	⅝	1	+ ¼
10¼	1¼	3½	1¼	1,235,815	N.P.	Rio Grande Oil Co.	....	July 25, 30	8,400	3⅜	2⅞	3¼	+ ¼
42⅝	13	23	12¼	558,343	$13.40	Royal Dutch Co. (N. Y. shares).	80½c	Aug. 5, 32	4,700	21⅝	20⅜	21½	+ 1⅛
20¾	5½	16½	6¾	1,244,383	N.P.	Seaboard Oil Co. of Del.	10cQ	June 15, 32	90,300	*16½	14⅛	15½	+ 1¼
34	5	15¾	8	62,825	£2	Shell Transport & Trading Co.	53c	July 22, 32	410	15	15	15	+ 1
10¼	2½	7⅛	2½	13,070,625	N.P.	Shell Union Oil Corp.	....	June 30, 30	40,000	7	6⅛	6⅞	+ ⅜
78	15	48¼	18	400,000	$100	do pfd.	....	July 1, 31	2,900	*48¼	47	47	+ ¼
11	3½	7½	3½	869,271	10	Simms Petroleum Co.	....	Sept. 15, 30	2,100	*7½	6¾	6¾	+ ⅜
12⅛	2	5	2½	1,000,000	25	Skelly Oil Co.	....	Dec. 15, 30	2,300	5	4½	4⅞	+ ⅜
62	10	30¾	12	120,000	100	do pfd.	....	May 1, 31	1,300	*30¾	29½	30¾	+ 1
21	8¾	11⅞	5¼	31,764,443	25	Socony Vacuum Corp.	20cQ	June 15, 32	63,800	11⅞	10⅜	11⅝	+ 1⅜
106	87⅛	95½	81½	764,935	100	S. O. Export Corp. pfd.	$2.50S.A.	June 30, 32	1,300	*95½	92¾	95½	+ 3
51¾	23⅛	30¼	15¼	13,102,900	N.P.	S. O. California.	50cQ	June 15, 32	53,400	*30¼	26⅜	29¼	+ 2⅜
19	7¾	16½	7	320,000	$25	S. O. Kansas.	....	Mar. 16, 31	11,300	16½	14	14⅞	— 1½
52⅛	26	36⅜	19⅞	25,735,466	25	S. O. New Jersey.	††25cQ	June 15, 32	98,500	*36⅜	33⅝	35	+ 1⅜
45¼	26¾	33¼	24¾	1,544,365	N.P.	Sun Oil Co.	25cQ	June 15, 32	400	33¼	32	32½	— ¼
104½	75	88	68	100,000	$100	do pfd.	$1.50Q	June 1, 32	360	*88	87	88	+ 1
1⅝	⅛	3	⅛	776,979	N.P.	Superior Oil Corp.	....	.....	10,300	1½	1⅜	1½	+ ⅛
35⅛	9⅞	17⅜	9¼	9,851,236	$25	The Texas Corp.	25cQ	July 1, 32	49,100	17¼	15½	16⅞	+ 1⅛
6½	1⅞	4	1½	930,454	10	Texas Pacific Coal & Oil Co.	....	Dec. 31, 29	2,900	3⅜	2⅞	3	+ ⅛
9	2⅛	5¼	2	5,998,086	N.P.	Tide Water Associated Oil Co.	....	Feb. 16, 31	30,800	5¼	4⅝	5¼	+ ½
68	20¾	55¼	20	695,494	$100	do pfd.	$1.50Q	July 1, 32	1,700	*55¼	50	55	+ 6
18	9⅛	10	5	2,191,954	N.P.	Tide Water Oil Co.	25cQ	June 30, 32	100	*10	10	10	+ 2½
83	30	58½	30	199,446	$100	do pfd.	$1.25Q	Aug. 15, 32	300	57	55	57	+ 2
26⅛	11	14½	8	2,225,302	25	Union Oil Co. California.	25cQ	Aug. 10, 32	12,500	*14½	12⅜	14¼	+ 1⅞
25⅛	16	19¼	11¾	1,254,048	N.P.	Union Tank Car Co.	35cQ	June 1, 32	500	16	13½	16	+ 3
7⅜	⅞	2	½	769,531	N.P.	Warner Quinlan Co.	....	July 3, 30	2,000	*2	1	2	+ 1
9⅜	2¾	8¼	2¾	428,967	N.P.	H. F. Wilcox Oil & Gas Co.	....	May 10, 28	16,400	6⅞	4¾	5½	— 1

*New high. †New low. ††Also extra—S. O. New Jersey 25c. Total sales 1,012,520

New York Curb Bonds

Week Ending Aug. 26

	High	Low	Last	Change
Cities Serv. 5s '50	50	45¼	50	+4¼
Cities Serv. 5s '66	49½	44¾	49½	+5⅛
Cities Serv. G. 5½s '42	62½	53⅜	62½	+8⅝
Cities Serv. G. P. 6s '43	66⅜	65	65½	+ ⅝
Cont. Oil 5½s '37	95	94	94¾	+ ¼
Empire O & R 5½s '42	59½	50½	59½	+8½
Gulf Oil 5s '37	100½	97½	100⅛	— ⅜
Gulf Oil 5s '47	98¼	96½	97⅜	+1⅛
Indep. Oil 6s '39	88	88	88	+1
Sun Oil 5½s '39	100	98¼	99⅛	+ ⅜

New York Bonds

Week Ending Aug. 26

	High	Low	Last	Change
Asso. Oil Gold 6s	102⅛	102⅛	102⅛	+ ½
Atlantic Refg. deb. 5s	100¼	99¾	100	0
Cal. Pet. 5s	92½	91	92½	+3
Cal. Pet. 5½s	94½	91½	94½	+3
General Pet. 5s	102½	102	102½	+ ½
Humble Oil & Refg. 5s	103	102	102⅜	— ⅝
Pan Amer. Pet. of Calif. 6s	36	30	31	+1
Pan Amer. Pet. of Calif. 6s ctfs	31	28	31	+1
Phillips Pet. 5¼s	77¾	76	76¼	0
Pure Oil 5½s	87	83½	85½	+1¾
Pure Oil 5½s	85	82	83½	+2½
Richfield Oil of Calif. 6s	26¾	26	26	+1
Richfield Oil of Calif. 6s ctfs	26	23½	25	—2
Shell Union Oil 5s	84¼	83½	83⅞	0
Shell Union Oil 5s w. war.	84	83½	83⅞	— ⅛
Sinclair Con. Oil 7s	98½	96⅝	98	+1⅞
Sinclair Con. Oil 6½s	96½	93½	95	+2
Sinclair Con. Crude 5½s	102¾	102	102¼	+ ¼
Sinclair Pipeline	100½	100	100½	0
Skelly Oil 5½s	77¾	74½	77½	+5½
S. O. N. J. 5s	102¾	102½	102⅝	0
S. O. N. Y. 4½s	95	94½	94⅞	— ⅛
Union Oil of Calif. 6s A	101½	101	101½	+1
Union Oil of Calif. 5s C	96½	95	96	+1
Union Oil of Calif. 5s war.	89	86	89	+3
Warner-Quinlan 6s	29¾	25	29¾	+6⅝
White Eagle Oil 5½s	102⅞	102⅞	102⅞	+ ⅜

Union Tank Car Nets $524,647

CLEVELAND, Aug. 27.—Net profit of Union Tank Car Co. was $524,647 the first half of 1932, compared with $984,705 the first half of 1931. Current assets June 30 amounted to $14,344,560 including $2,269,810 cash, $6,463,516 U. S. government bonds at cost, and $4,081,179 other securities at cost. Current liabilities amounted to $314,632.

Production of crude in Trinidad in the first half of 1932 totaled 5,100,820 barrels, compared with 4,815,000 barrels in the first half of last year.

A single tax in France on various fatty substances includes one of 7 per cent on candles.

Tank Wagon Price Changes

(Continued from page 69)

Naphtha Prices

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	11.7	13.7	15.2
Detroit	14.5	16	16.8
Kansas City	†13	†14.5	†15.3
Milwaukee	*17.5	*19	*19.8
Minneapolis	**17.8	**19.3	**20.1
St. Louis	12.7	14.2	15
New York	...	14	15
Boston	...	16	16
Philadelphia	...	15	....

*Includes 4c state tax. †Includes 1c city tax.
**Includes 3c state tax.

Petroleum Spirits (Solvent)

Tank Cars (F.o.b. refinery or seaboard terminal)	
New York Harbor	9.50
Philadelphia district	9.50
Providence	9.50
Tank Wagon or Steel Barrels	
New York City	14
Syracuse	14
Rochester	14
Buffalo (net price)	13
Providence	16
Boston	16
Bridgeport	16
Newark	14
Philadelphia	14
Lancaster	17
Altoona	17
Baltimore	16

Note: 2c off above t.w prices to large buyers in some instances

NEW PATENTS

Prepared by R. E. Burnham, patent and trade-mark attorney, 1343 H Street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 25c each. State number of patent and name of inventor when ordering.

August 9, 1932

PRODUCTION

Crown construction for derricks—Leslie A. Rawson, Los Angeles, Calif., assignor to Emsco Derrick & Equipment Co., same place. Filed July 8, 1929. No. 1,870,587.

Core-drill—Martin Schuerman, Maywood, Calif. Filed May 21, 1931. No. 1,870,592.

Well-testing device—Guy V. Lewis, Laredo, Tex. Filed May 6, 1927. No. 1,870,634.

Self-cooling drilling and coring bit—Thomas G. Taylor, Shawnee, Okla. Filed July 16, 1929. No. 1,870,696.

Apparatus for holding rotary drilling power units in a well against rotation.—Thomas G. Taylor, Roswell, N. Mex. Filed Dec. 6, 1930. No. 1,870,697.

Setting tool—Leslie A. Layne and Albert L. Roco, Houton, Tex.; said Roco assignor to said Layne. Filed Mar. 2, 1932. No. 1,870,779.

Protective means for buried metallic surfaces—Stanton U. McGary, Walter F. Rogers, and Stanley Gill, Houston, Tex., assignors to Gulf Production Co., same place. Filed Oct. 11, 1929. No. 1,871,125.

Double leg construction for derricks with equalizing means—Leslie A. Rawson, Los Angeles, Calif., assignor to Emsco Derrick & Equipment Co., same place. Filed Apr. 19, 1930. No. 1,871,130.

Double leg construction for derricks.—Leslie A. Rawson, Los Angeles, Calif., assignor to Emsco Derrick & Equipment Co., same place. Filed Apr. 23, 1930. No. 1,871,131.

Derrick having fluid load-equalizing means—Leslie A. Rawson, Los Angeles, Calif., assignor to Emsco Derrick & Equipment Co., same place. Filed Jan. 23, 1931. No. 1,871,132.

Eccentr'c Equalizer for derricks—Leslie A. Rawson, Los Angeles, Calif., assignor to Emsco Derrick & Equipment Co., same place. Filed Jan. 23, 1931. No. 1,871,133.

Floating roof for liquid-storage tanks.—John H. Wiggins, Tulsa, Okla. Filed Mar. 31, 1930. No. 1,871,251.

Floating roof for liquid-storage tanks.—John H. Wiggins, Tulsa, Okla. Filed May 31, 1930. No. 1,871,289.

Oil-well-flow-control device—Edward H. Griswold and John C. Nicklos, Ponca City, Okla., assignors to Continental Oil Co., same place. Filed Mar. 26, 1932. No. 1,871,319.

Sample-taking device—Frank G. Kunz, Houston, Tex. Filed Jan. 14, 1931. No. 1,871,328.

MISCELLANEOUS

Liquid-dispensing apparatus—Warren H. De Lancey, Springfield, Mass., assignor to Gilbert & Barker Mfg. Co. Filed Oct. 20, 1930. No. 1,870,899.

Liquid-dispensing apparatus—Warren H. De Lancey, Springfield, Mass., assignor to Gilbert & Barker Mfg. Co. Filed Nov. 14, 1931. No. 1,870,900.

Liquid-dispensing apparatus—Joseph A. Logan, Springfield, Mass., assignor to Gilbert & Barker Mfg. Co. Filed July 25, 1931. No. 1,870,918.

Wax-containing composition—James D. Lindsay, Whiting, Ind., assignor to Standard Oil Co. (Ind.) Filed Jan. 6, 1927. No. 1,871,187.

August 16, 1932

REFINING

Process of refining oils—James G. Ford, Wilkinsburg, Pa., assignor to Westinghouse Electric & Mfg. Co. Filed June 1, 1927. No. 1,871,681.

Process for refining paraffin and naphthene base oils—James G. Ford, Wilkinsburg, Pa., assignor to Westinghouse Electric & Mfg. Co. Filed June 1, 1927. No. 1,871,682.

Fractionating system—Donald A. Monro, Hammond, Ind., assignor to Standard Oil Co. (Ind.) Filed Apr. 25, 1931. No. 1,871,819.

Art of Filtration—William E. Kinnison, Casper, Wyo., assignor to Standard Oil Co. (Ind.) Filed Apr. 17, 1930. No. 1,871,891.

Coke-puller—George W. Watts, Whiting, Ind., and Wallace B. Matthews, Chicago, Ill., assignors to Standard Oil Co. (Ind.) Filed Feb. 20, 1930. No. 1,871,932.

Process of and reagent for treating petroleum emulsion—Herman Heckel and Warren T. Reddish, Cincinnati, Ohio, assignors to Kontol Co., Dallas, Tex. Filed June 19, 1928. No. 1,872,286.

Emulsion breaking—James O. Pierce and Warren T. Reddish, Cincinnati, Ohio, assignors to Kontol Co., Dallas, Tex. Filed Apr. 29, 1927. No. 1,872,333.

Removing sulphur from oils.—Albert Sachs, New York, N. Y., assignors to Petroleum Conversion Corp., same place. Filed Oct. 6, 1928. No. 1,872,349.

Process of producing low-boiling-point oils or motor fuels from hydrocarbon oils by employment of metallic halides—Ralph A. Halloran, Marvin L. Chappell, and James H. Osmer, assignors to Standard Oil Co. (Calif.) Filed Mar. 16, 1927. No. 1,872,446.

Process of treating hydrocarbons—Irvin H. Jones, Pittsburgh, Pa., assignor to Koppers Co. Filed Oct. 1, 1927. No. 1,872,463.

PRODUCTION

Well-drilling appliance—Frank L. Le Bus, Electra, Tex. Filed Feb. 25, 1929. No. 1,871,536.

Tooth formation and arrangement for rotary drilling—Clarence E. Reed, Wichita, Kans., assignor to Chicago Pneumatic Tool Co., New York, N. Y. Filed Dec. 10, 1930. No. 1,871,736.

Oil-saver—William G. Bradford, Torrance, Calif. Filed Nov. 24, 1930. No. 1,871,836.

Well-elevator—John Grant, Los Angeles, Calif., assignor to Byron Jackson Co., same place. Filed Jan. 11, 1923. No. 1,871,845.

Pipe-uncoupling mechanism—Arthur E. Martois, Compton, Calif. Filed Feb. 7, 1929. No. 1,871,857.

Well-pipe-elevator trunnion—Nelson K. Smith, Los Angeles, Calif., assignor to Byron Jackson Co., same place. Filed Dec. 7, 1929. No. 1,871,925.

Control-head for oil or gas wells—Lee J. Black, Beaumont, Tex. Filed Feb. 4, 1930. No. 1,872,104.

Pressure-control head—Lee J. Black, Beaumont, Tex. Filed Dec. 18, 1930. No. 1,872,105.

Safety-valve for well-casings—Ellsworth Gray and Robert A. Mueller, Houston, Tex., assignors to Gray Tool Co., same place. Filed July 2, 1928. No. 1,872,139.

Packer for casing-heads—Lawrence F. Baash and Erwin Burns, Los Angeles, and George B. Garrard, Long Beach, Calif. Filed June 23, 1930. No. 1,872,219.

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Standard Oil Stocks on New York Curb Market

1931 High	1931 Low	1932 High	1932 Low	Shares Issued	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Week Ended Aug. 27 Sales Shares	High	Low	Last	Week's Change
16	6	6¼	6	40,000	$25	Borne Scrymser Co.	....	Oct. 15, 30	.....	.....	.....	.....	.....
56	30	35	17⅛	200,000	50	Buckeye Pipe Line Co.	$1Q	June 15, 32	300	24	24	24	— ¼
129½	75	90	55	120,000	25	Chesebrough Mfg. Co.	††$1Q	June 30, 32	100	89½	89½	89½	+10½
3½	1⅛	3⅛	1¾	5,977,875	N.P.	Creole Petroleum Co.	....	.....	2,400	*3⅛	2⅞	3	— ⅛
36	19	32	18	50,000	$100	Eureka Pipe Line Co.	$1Q	Aug. 1, 32	300	30	27	30	+ 5¾
72	44¼	53½	36⅝	2,974,645	25	Humble Oil & Refg. Co.	50cQ	July 1, 32	4,400	*53½	48	42⅛	+ 4⅛
18⅛	7⅝	10	6¼	26,557,496	N.P.	Imperial Oil Corp. coup.	12½cQ	June 1, 32	3,800	9¾	9	9½	+ ½
18	7⅛	9½	6¾	.....	N.P.	do registered	12½cQ	June 1, 32	800	*9½	9¼	9½	+ 1
21⅛	5½	7½	2⅞	300,000	$10	Indiana Pipe Line Co.	10cS.A.	May 15, 32	100	4¾	4¾	4¾	+ ¾
15½	7⅜	11⅜	8	14,247,088	N.P.	International Petroleum Co.	25cQ	June 15, 32	12,000	11¼	10½	10⅞	+ ⅜
17½	5	10½	6	509,000	$12.50	National Transit Co.	25cQ	June 15, 32	.....	.....	.....	.....	.....
14½	5⅞	5½	2¼	100,000	5	New York Transit Co.	10cQ	Apr. 15, 32	700	5⅛	4½	5	+ ½
35½	20	4½	3	120,000	10	Northern Pipe Line Co.	25cA	July 1, 32	.....	.....	.....	.....	.....
102⅛	67½	79	60	580,668	100	Ohio Oil Co. pfd.	$1.50Q	June 15, 32	600	*79	78	79	+ 4
15½	5½	7½	4	400,000	25	Penn Mex. Fuel Co.	50c	May 25, 32	200	*7½	6½	7½	+ ¼
17	7	10	6	100,000	10	Southern Pipe Line Co.	35cQ	June 1 32	.....	.....	.....	.....	.....
23⅞	9¼	16½	9⅝	1,200,000	25	South Penn Oil Co.	25cQ	June 30, 32	600	15½	14½	15½	+ 1
42½	25	37	27	35,000	50	South West Pa. Pipe Lines	$1Q	July 1, 32	.....	.....	.....	.....	.....
38½	13½	25	13⅛	16,990,596	25	S. O. Indiana	25cQ	June 15, 32	17,100	*25	23⅞	24⅝	+ ½
23⅝	12⅛	15⅞	8⅞	2,606,983	10	S. O. Kentucky	30cQ	June 30, 32	4,500	14⅛	12½	13⅞	+ 1¼
36½	16	19	10¼	190,822	25	S. O. Nebraska	75cQ	June 20, 32	100	16	16	16	+ ¾
62½	23	30¼	15⅛	120,000	25	S. O. Ohio	62½cQ	July 1, 32	100	25¾	25	25½	+ ½
115¼	78½	87	78½	34,158	100	do 5% pfd.	$1.25Q	July 15, 32	.....	.....	.....	.....	.....
10	1	2	1¾	.....	25	Swan Finch Oil Corp.	....	Jan. 15, 32	100	2	2	2	0

*New high. †New low. ††Also extra—Chesebrough 50c

Oil and Royalty Stocks on New York Curb

1931 High	1931 Low	1932 High	1932 Low	Par Value	Company	Transactions Week Ended Aug. 27 Sales Shares	High	Low	Last	Week's Change
1¾	¼	⅝	¼	N.P.	American Maracaibo	5,300	7/16	3/8	7/16	+ 1/16
6½	1⅞	3½	⅝	N.P.	Arkansas Nat. Gas	850	*3½	2	3½	+ 1⅝
6¾	1⅞	2⅝	½	N.P.	do A	7,600	2½	2	2½	+ ½
7	3⅞	5½	1½	$10	do pfd.	900	5	4	5	+ ¾
1	½	⅛	⅛	N.P.	Atlantic Lobos	.....	.....	.....	.....	.....
3¼	¼	⅝	½	$50	do pfd.	.....	.....	.....	.....	.....
16⅞	6¼	9¾	7	N.P.	British Amer. Oil coup.	.....	.....	.....	.....	.....
16¾	10	..	..	N.P.	do registered	.....	.....	.....	.....	.....
2⅜	¼	¾	¼	$1/4	Caribbean Syndicate	800	5/8	½	5/8	0
20¾	5	6⅞	1¼	N.P.	Cities Service	85,300	5½	5	5⅜	+ 1/8
84¾	35⅜	53⅜	10	$100	do pfd.	2,500	31	26	31	+ 3⅞
7½	4	4½	1	$10	do pref. B	200	3	2¼	3	+ ½
84	41½	45	9	100	do pref. BB	220	23	20⅜	23	+ 2
3⅛	½	1¼	¼	N.P.	Colon Oil Corp.	2,600	*1¼	1	1⅛	+ 1/16
7¼	1	1⅞	½	N.P.	Columbia Oil & Gas vtc.	1,900	1¾	1⅜	1⅝	+ ⅜
2¾	1	2	1	$1	Consolidated Royalty	1,100	*2	1½	2	+ ⅝
3¾	⅝	2¼	¼	N.P.	Cosden Oil	1,500	*2¼	1⅝	2¼	+ ⅝
15	1	3	2	$100	do pfd.	1,500	2	1⅜	2	+ ⅝
⅝	⅛	⅝	⅛	N.P.	Crown Central Pet.	1,500	½	½	½	0
5	1¾	7	1⅝	N.P.	Darby Petroleum	1,600	*7	5	7	+ 1¾
6	1½	3	1	N.P.	Derby Oil & Ref'g.	1,700	*3	2⅛	2½	+ ½
40¼	25	24½	10½	N.P.	do pfd.	.....	.....	.....	.....	.....
76	25⅝	41	23	$25	Gulf Oil Corp.	13,000	40½	37¼	39⅞	+ 1⅛
9¾	9¾	..	..	N.P.	Honolulu Oil Corp.	.....	.....	.....	.....	.....
16⅞	4¼	4½	1⅝	N.P.	Indian Ter. Ill'g. Oil A.	100	4¼	3¾	4¼	0
16⅞	5	4½	2½	N.P.	do B	300	4¼	4	4¼	+ ½
⅜	⅛	¼	⅛	$5	Intercontinental Pet.	3,400	1/16	1/16	1/16	+ 1/16
1⅞	¼	1	⅜	N.P.	Kirby Petroleum	100	⅞	⅞	⅞	+ ⅜
1½	¼	¾	⅛	$25	Leonard Oil Devel.	.....	.....	.....	.....	.....
6¾	1½	3½	⅞	N.P.	Lion Oil Refining	100	*3½	3½	3½	+ ⅜
29	5½	9¾	3½	N.P.	Lone Star Gas	2,900	8½	7⅝	8½	+ ¾
½	⅛	..	..	$25	MacMillan Petroleum	.....	.....	.....	.....	.....
1¾	1/16	⅛	1/16	1	Magdalena Syndicate	14,900	⅛	1/16	⅛	+ 1/16
5	1⅞	6⅛	3¼	N.P.	Margay Oil Co.	.....	.....	.....	.....	.....
4¾	1½	3	1½	N.P.	Mexico-Ohio Oil	.....	.....	.....	.....	.....
8⅛	1¼	2	⅛	N.P.	Michigan Gas & Oil	800	1¾	1	1¾	+ ¾
4⅜	⅞	2⅛	⅛	N.P.	Mid. States Pet. A v.t.c.	1,200	1¼	1⅛	1¼	+ 1/16
1⅛	¼	⅝	¼	N.P.	do B v.t.c.	.....	.....	.....	.....	.....
11	¾	2⅛	⅛	$5	Missouri-Kansas P.L.	.....	.....	.....	.....	.....
⅝	⅛	⅛	⅛	1	do B v.t.c.	.....	.....	.....	.....	.....
⅛	1/16	1/16	1/16	1	Mountain & Gulf	.....	.....	.....	.....	.....
5⅞	2	4½	2⅛	10	Mountain Producers	1,400	*4½	4⅛	4¼	0
26½	9¾	13½	8	N.P.	National Fuel Gas	.....	.....	.....	.....	.....
1½	½	⅞	⅜	$5	New Bradford Oil	300	*⅞	¾	⅞	+ ¼
2⅛	¾	..	..	10	New England Fuel	.....	.....	.....	.....	.....
6½	6½	..	..	10	North Amer. Oil	.....	.....	.....	.....	.....
3¼	1¼	1	⅜	N.P.	North Central Texas	1,000	1½	1	1½	0
2¼	¼	⅜	1/16	N.P.	North European	2,700	⅜	¼	⅜	— 1/16
5	⅜	4¾	¼	N.P.	Oil Stocks, Ltd. A	200	*4¾	4¼	4¾	+ ⅝
4⅛	2	..	..	N.P.	do B	.....	.....	.....	.....	.....
15	2⅞	6¼	3⅛	N.P.	Pacific Western Oil	1,000	5⅛	5	5⅛	— ⅛
⅛	1/16	⅛	1/16	N.P.	Pandem Oil	.....	.....	.....	.....	.....
2	⅛	⅝	⅛	N.P.	Pantepec of Venezuela	500	½	⅜	⅜	— ⅛
19	6	10⅞	6	$5	Plymouth Oil	900	7⅛	9½	9⅝	+ ⅜
4⅛	¼	⅝	¼	N.P.	Producers Royalty	15,100	¼	¼	¼	— 1/16
83½	49½	58¾	40	$100	Pure Oil 6% pfd.	30	*58¾	54½	58¾	+ 5
2½	⅛	1	½	N.P.	Red Bank Oil	.....	.....	.....	.....	.....
2½	¼	⅛	1/16	N.P.	Reiter-Foster Oil	200	½	½	½	0
11	¼	1	¼	$25	Richfield Oil pfd.	.....	.....	.....	.....	.....
6⅛	1¾	5	1¼	N.P.	Root Refining pfd.	400	*5	4¼	5	0
3¾	½	½	½	$10	Royalty Corp. pfd.	.....	.....	.....	.....	.....
3	¾	1¼	¾	N.P.	Ryan Consolidated	.....	.....	.....	.....	.....
1⅜	½	⅞	½	$10	Salt Creek Consol.	300	*⅞	⅝	⅞	+ ⅜
7⅜	2¼	5⅜	2⅞	10	Salt Creek Prod.	1,700	*5⅜	4⅛	5⅜	+ ⅜
7	1	1¼	½	25	Shreve. El Dorado P.L.	.....	.....	.....	.....	.....
7½	3½	4⅜	2⅞	N.P.	Southland Royalty	400	2	1⅝	2	+ ½
5¼	¼	⅝	¼	$5	Sunray Oil	900	½	3/8	1/16	0
12¼	2½	8	4½	N.P.	Texon Oil & Land	1,700	7⅝	7¼	7⅝	+ ⅝
24½	9½	12	7½	$25	Union Oil Associates	200	12	12	12	— ⅜
1⅛	¼	½	¼	5	Venezuela Petroleum	.....	.....	.....	.....	.....
3½	1⅛	2	1¼	1	Woodley Petroleum	.....	.....	.....	.....	.....
2¼	¾	⅝	⅜	N.P.	Y Oil & Gas	400	½	⅜	⅜	— 1/8

*New high. †New low.

Oil Dividends

Declared Last Week

Company and period	Amount	Stock of Record Payable
British American Oil q.	20c	Oct. 1 Sept. 14
Humble Oil q.	50c	Oct. 1 Sept. 1
Seaboard Oil q.	10c	Sept. 15 Sept. 1
South West Pa. P.L. q.	$1	Oct. 1 Sept. 15
S. O. Ohio q.	37½c	Oct. 1 Sept. 15
do pfd. q.	$1.25	Oct. 15 Sept. 30

Awaiting Payment

Aug. 27, 1932

Company and Period	Amount	Stock of Record Payable
Atlantic Refining q.	25c	Sept. 15 Aug. 22
Buckeye Pipe Line q.	75c	Sept. 15 Aug. 19
Canadian Oil Co. pfd. q.	$2	Oct. 1 Sept. 20
Chesebrough Mfg. q.	$1	Sept. 30 Sept. 8
do extra	50c	Sept. 30 Sept. 8
Hancock Oil A & B q.	10c	Sept. 1 Aug. 15
Imperial Oil q.	12½c	Sept. 1 Aug. 15
McColl Frontenac q.	15c	Sept. 15 Aug. 15
Ohio Oil q.	20c	Sept. 15 Aug. 20
do pfd. q.	$1.50	Sept. 15 Sept. 6
Pan Amer. P. & T.	*20c	Sept. 15 Aug. 16
do B	20c	Sept. 15 Aug. 16
Pure Oil 5¼% pfd. q.	$1.25	Oct. 1 Sept. 9
do 6% pfd. q.	$1.50	Oct. 1 Sept. 9
do 8% pfd. q.	$2	Oct. 1 Sept. 9
Socony-Vacuum Corp. q.	20c	Sept. 15 Aug. 19
Southern Pipe Line q.	15c	Sept. 1 Aug. 15
S. O. California q.	50c	Sept. 15 Aug. 15
S. O. Indiana q.	25c	Sept. 15 Aug. 15
S. O. Nebraska q.	25c	Sept. 20 Aug. 27
S. O. New Jersey q.	25c	Sept. 15 Aug. 16
do extra	25c	Sept. 15 Aug. 16
Sun Oil q.	25c	Sept. 15 Aug. 25
do pfd. q.	$1.50	Sept. 1 Aug. 10
The Texas Corp. q.	25c	Oct. 1 Sept. 2
Union Tank Car q.	35c	Sept. 1 Aug. 15

*20 cent dividend represents adjustment in date of payment. Quarterly rate is 25c.

Pittsburgh Stock Exchange

Transactions Week Ended Aug. 26, 1932

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas pfd.	139	4⅛	4	4	+ ¼
†Col. Gas & Elec.	3,636	17⅞	15	17	+2½
Devonian Oil	70	8⅛	8⅛	8⅛	+ ⅛
‡Gulf Oil	33	39	39	39	— ½
‡Leonard Oil & Development	500	.50	.50	.50	—.25
†Lone Star Gas	27,317	8⅛	7½	8⅛	+ ⅛
‡ do pfd.	35	72½	70	72½	+7½
Phoenix Oil	1,000	.08	.07	.08	+.03
Plymouth Oil	2,155	10	9	9¾	0
Shamrock O & G.	300	1¾	1¾	1¾	— ¼
‡Standard Oil of N. J.	597	36½	33⅜	34⅞	+2
‡Western Public Service	2,689	5¼	5⅛	5⅛	— ⅛

†Payable in new preferred stock. ‡Unlisted.

Standard Oil Group To Pay Almost $44,000,000 in Third Quarter

NEW YORK, Aug. 26

CASH dividend payments by companies of the Standard Oil group for the third quarter of 1932 are estimated at $43,868,468, compared with $46,308,873 in the second quarter and $51,263,688 in the third quarter of 1931, according to Carl H. Pforzheimer & Co., specialists in Standard Oil stocks. For the first three quarters of 1932 disbursements will aggregate $136,978,394 against $172,208,952 in the corresponding period of the preceding year.

In the third quarter of 1932 regular quarterly payments were made by the larger Standard Oil units. Ohio Oil Co. declared a second dividend of 20 cents a share on the common, thus placing the stock on an 80 cents annual basis.

The reduction in aggregate disbursements are accounted for mainly by reduced declarations on Standard Oil of Ohio common stock and several of the pipeline company issues. Two of the smaller companies have not yet taken action on their third quarter dividends, but regular disbursements are calculated in the computation for the period.

Among the pipelines, Buckeye, Southern and National Transit cut their payments in the third quarter, this action being attributed in part to the tax on transportation on oil, which went into effect recently, as well as to reduced oil deliveries.

Dividend disbursements by quarters the last few years were:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
1932	$46,801,052	$46,308,873	$43,868,468	.....	.....
1931	63,101,797	57,843,467	51,263,688	$48,530,230	$220,739,182
1930	66,687,168	68,555,901	68,271,015	83,012,644	286,526,728
1929	63,101,701	66,053,389	65,426,981	75,063,856	269,645,927
1928	48,927,670	57,694,206	50,068,102	62,050,357	218,740,335

Asphalt Omits Dividend; Earnings Fall

PHILADELPHIA, Aug. 26.—General Asphalt Co. has omitted a dividend on its common stock which normally would be paid at this time. The company announced that diminished volume of business and profits made conservation of cash advisable.

The company and subsidiaries had a net loss of $281,338 in the 12 months ended June 30, 1932. In the preceding 12-month period its net profits amounted to $578,197, or $1.40 a share on its 413,333 shares of no par common stock.

Gross sales in the 12 months ended last June 30 amounted to $7,666,969, compared with $10,811,358 in the preceding 12-month period.

The company had $1,951,679 cash June 30 and stated current assets were 9 to 1 of current liabilities.

Demands Right to Examine Rio Grande Books

LOS ANGELES, Aug. 26.—Petition for a writ of mandate ordering officers of the Rio Grande Oil Co. to produce for inspection the company's books of accounts and records was filed in a Los Angeles court the past week by attorneys for the recently formed Rio Grande stockholders committee.

The petition alleges that the Consolidated Oil Corp., Harry F. Sinclair, chairman of its board, and other representatives of Consolidated own or control a large number of shares of the Rio Grande company and that the board of directors and officers are dominated and controlled by Consolidated.

It was also stated in the petition that a demand made in writing to the Rio Grande management for permission to examine the books had been refused. Further than no independent audit of the books and records of the company had been made within the past four years, as far as the petitioners are advised.

A writ of mandate ordering the officers to produce the company's books, is asked for in the petition, in order that the committee may determine the true value of their stock, the interest in the company held by Consolidated or its representatives, and personal interest which they or other members of the board may have in the proposed sale, and finally to determine whether or not Rio Grande has been mismanaged and its assets wasted by the officers and directors.

Colon Companies Have Loss

NEW YORK, Aug. 26.—Colon Oil Corp. and Colon Development Co. report net loss of $750,845 for the first half of 1932.

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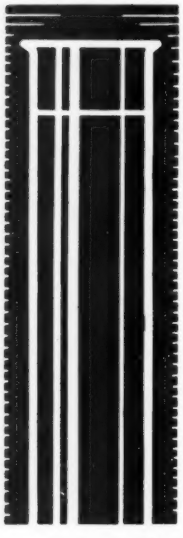

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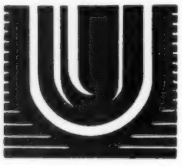

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Ohio Standard Reduces Dividend on Common

CLEVELAND, Aug. 25.—Standard Oil Co. of Ohio has reduced the dividend rate on its $25 par common stock to 37½ cents a share a quarter. It previously paid 62½ cents a share a quarter. The new rate is being applied to the dividend payable Oct. 1 to stock of Sept. 15 record. The company issued this statement:

"The board of directors do not feel that in view of current conditions a total dividend for 1932 in excess of $2 a share on common is warranted. A dividend of $1.25 a share having already been paid in the first half of the year, the dividend for the third quarter has, therefore, been reduced to 37½ cents, it being expected that except for an unforeseen change in conditions, a similar payment can be made on Jan. 1, 1933."

Last year net earnings of Standard of Ohio averaged $2.34 a share on the common stock after dividend allowances on the 5 per cent preferred stock.

North Central Texas Oil Reports Income Gain

CLEVELAND, Aug. 26.—North Central Texas Oil Co. has reported net profit of $13,288 for the second quarter of 1932, compared with net loss of $1915 in the second quarter of 1931. Net profit the first half of 1932 was $21,202, compared with $5616 the first half of 1931.

Current assets June 30 were $235,829 and current liabilities $8117, compared with $320,065 and $7917, respectively, June 30, 1931.

Gulf's Oil Given Racing Test On Speedway

PITTSBURGH—Gulf Refining Co.'s Supreme motor oil was tested in an automobile racing car driven for an hour at an average speed of 101.53 miles an hour on the Indianapolis speedway by Lou Moore, noted race driver.

The oil was taken from a Gulf dealer's tank, and at the completion of the test samples were drained from the crankcase. The test was to compare results of driving a racing automobile, under a summer sun, at high speed with regular motor oil as against castor oil customarily used in racing cars.

The run was under the supervision of the American Automobile Association, and was timed and checked by speedway officials of this group subject to verification by the A. A. A. conference board at Washington.